NATIVE LANDSCAPE SPECIFICATIONS
ELGIN SPORTS COMPLEX

1.0 PURPOSE

The purpose of this plan is to provide native landscaping specifications for stormwater Best Management Practices (BMP's) for the Elgin Sports Complex expansion site. The naturalized BMP's on the site include two stormwater management detention basins and two bio-swales. These BMP's will provide improved water quality functions for the site, improved stormwater filtration and infiltration benefits for the local watershed, soil stabilization and erosion control, and improved wildlife habitat for local and migratory species.

2.0 CONTRACTOR QUALIFICATIONS

1. The Native Landscape Contractor chosen for the establishment and enhancement of the natural areas must be experienced in the restoration, installation, and management of said areas. They must have a minimum five years of experience conducting ecological restoration and management projects.

2. There shall be a supervisor available at all times that can identify non-native and native plants by genus and species. The goal of installing successful native plant communities is a long-term process. Therefore, it is imperative that a qualified Native Landscape Contractor perform the initial installation and maintenance.

3.0 QUALITY AND CONDITION

1. All native seed proposed for the project shall be provided as Pure Live Seed (PLS) and sourced from within a 200 mile radius of the project location. Plant origins outside of this range must be approved by the Engineer.

2. Native seeds shall be blended by the vendor, and the mixture and ratio shall be guaranteed in writing to be as specified. The amount of seed indicated on the specifications shall mean the total amount of pure live seed (PLS) per acre for all species listed. It is the sole responsibility of the Native Landscape Contractor to provide approved seed that meets industry-standard PLS requirements.

3. Native Landscape Contractor shall provide the Engineer with the name and location of the seed supplier, origin of the various kinds of plants, and a statement of the purity of the seed.

4. Seed shall conform to applicable State and Federal regulations as in effect on the date of letting. Unless otherwise specified, seed shall not contain in excess of 1 percent weed seeds; 0 percent is desirable.

5. All storage requirements, stratification, and scarification considerations shall be the sole responsibility of the Native Landscape Contractor.

6. If specified for the seed mixture, mycorrhizal inoculants shall be pelletized and mixed at 1 lb. per acre with the fine seeds before installation. The inoculants shall contain a diverse mixture of Glomales fungal species (*Glomus* spp.) in pelletized form.

7. Under no circumstances shall Wheat (*Triticum aestivum*), Cereal Rye (*Secale cereale*), Perennial Rye (*Lolium perenne*), or Barley (*Hordeum vulgare*) be used as a temporary cover crop.

4.0 HANDLING

1. Native Landscape Contractor shall be solely responsible for the proper handling and storage of the seed according to the best seed handling and storage practices, including fungicide treatments and stratification considerations. Owner shall make no compensation for damage to the seed because of improper storage, cleaning, threshing, or screening operations.

2. All native seeds shall be packed and covered in such a manner as to ensure adequate protection against damage and maintain dormancy while in transit, storage, or during planting operations.

3. Seed shall be kept dry and unopened until needed for use. Seed shall not be stored or temporarily stored in locations or vehicles where the temperature will be in excess of 90 degrees F.

5.0 SITE PREPARATION

1. Site should be cleared of undesirable vegetation prior to seeding. If necessary, non-selective herbicide (Aquatic-approved Glyphosate formulation) should be applied within the proposed planting zones at least 2 weeks prior to seedbed preparation.

2. The General Contractor and Native Landscape Contractor shall be responsible for performing all work necessary to achieve and maintain an acceptable seedbed prior to seeding. All areas must be properly prepared before seeding begins. Underground utility location maps and plans should be reviewed prior to work. Equipment having low unit pressure ground contact shall be utilized within the planting areas.

3. Unless the Engineer agrees to another approach, the seedbed shall be prepared by working the topsoil to a depth of 3 inches. Site preparation equipment shall be of a design that can be utilized efficiently by the Native Landscape Contractor to meet the requirements for the work specified. The equipment proposed for use by the Native Landscape Contractor for disking and herbicide applications shall be subject to approval by the Engineer.

4. Prior to seeding, at least 4 inches of topsoil shall be present and free of all clods, stones, roots, sticks, rivulets, gullies, crusting, and cracking. The soil aggregate size will be no greater than 2 inches in the largest diameter.

5. If present, compacted soils shall be disked or raked prior to seeding. Remedial measures for the access area may, at the direction of the Engineer, involve ripping 12 inches of the soil horizon prior to disking. If compaction is not a concern and the seedbed needs to be loosened prior to seeding to ensure good seed-soil contact, disking or raking shall be performed using equipment and the approach recommended by the Native Landscape Contractor, subject to approval by the Engineer.

6. If needed, cultivation shall occur within 24 hours prior to seeding. Seeding should occur immediately after the last cultivation, preferably before a rain.

6.0 PLANT MATERIALS

Table 1: Native Low-Profile Wet to Mesic Prairie Seed Mix (to be planted below the 745' contour on Basin A, below the 729' contour on Basin B, and within the depression west of Basin A)

Scientific Name	Common Name	Bloom Time	Bloom Color	Bloom Height	Lbs/Ac
Agrostis alba palustris	Bent Grass	June-July	n/a	1.0-2.0'	1.500
Alisma subcordatum	Common Water Plantain	July-Sept.	White	1.0-3.0'	0.375
Asclepias incarnata	Swamp Milkweed	June-Aug.	Pink	2.0-4.0'	0.063
Aster novae-angliae	New England Aster	July-Oct.	Blue	3.0-5.0'	0.063
Aster simplex (lanceolatus)	Panicled Aster	Sept.-Oct.	White	4.0-5.0'	0.031
Boltonia latisquama	False Aster	July-Oct.	White	2.0-4.0'	0.063
Calamagrostis canadensis	Blue Joint Grass	July-Aug.	n/a	2.5-3.5'	0.250
Carex bebbii	Bebb's Sedge	May-June	n/a	2.0-3.0'	0.125
Carex scoparia	Pointed Broom Sedge	May-June	n/a	1.0-3.0'	0.015
Carex stipata	Awl-fruited Sedge	April-May	n/a	2.0-3.0'	0.063
Carex vulpinoidea	Fox Sedge	May-June	n/a	2.0-3.0'	0.500
Eleocharis palustris	Spike Rush Species	May-Sept.	n/a	1.0-1.5'	0.015
Elymus canadensis	Nodding Wild Rye	June-July	n/a	2.0-4.0'	1.000
Elymus virginicus	Virginia Wild Rye	June-July	n/a	1.5-3.0'	2.000
Eutrochium purpureum	Purple Joe Pye Weed	July-Aug.	Purple	3.5-4.5'	0.125
Glyceria striata	Fowl Manna Grass	May-June	n/a	1.5-3.0'	0.125
Helenium autumnale	Sneezeweed	July-Oct.	Yellow	2.0-4.0'	0.063
Juncus effusus	Soft Rush	May-Sept.	Green	1.0-2.0'	0.015
Juncus tenuis	Path Rush	June-Oct.	Green	0.75-1.5'	0.015
Juncus torreyi	Torrey's Rush	July-Sept.	Green	0.5-1.5'	0.015
Mimulus ringens	Monkey Flower	June-Sept.	Blue	1.0-2.0'	0.031
Monarda fistulosa	Wild Bergamot	July-Aug.	Lavender	3.0-4.0'	0.500
Panicum virgatum	Switch Grass	July-Aug.	n/a	3.0-4.0'	0.500
Penthorum sedoides	Ditch Stonecrop	June-Oct.	Green	1.0-2.0'	0.006
Poa palustris	Marsh Blue Grass	May-July	n/a	1.0-2.0'	0.250
Polygonum lapathifolium	Nodding Smartweed	July-Sept.	Green	2.0-6.0'	0.500
Polygonum pennsylvanica	Giant Smartweed	June-Sept.	White	1.5-3.0'	0.500
Pycnanthemum tenuifolium	Slender Mountain Mint	July-Aug.	White	2.0-3.0'	0.125
Ratibida pinnata	Yellow Coneflower	July-Sept.	Yellow	3.0-4.0'	0.500
Rudbeckia hirta	Black-Eyed Susan	June-Aug.	Yellow	2.0-3.0'	1.000
Sagittaria latifolia	Duck Potato	June-Aug.	White	2.0-4.0'	0.063
Schizachyrium scoparium	Little Bluestem Grass	Sept-Oct.	n/a	2.5-3.5'	2.000
Scirpus atrovirens	Dark Green Rush	May-Aug.	Brown	2.0-5.0'	0.750
Scirpus pendulus (lineatus)	Red Bulrush	May-June	Brown	1.0-5.0'	0.125
Scirpus pungens	Chairmakers Rush	May-Aug.	Brown	3.0-4.0	0.625
Verbena hastata	Blue Vervain	July-Sept.	Blue	2.0-6.0'	0.125
Zizia aurea	Golden Alexanders	May-June	Yellow	2.0-3.0'	0.125
Total					**14.144**

Table 2: Native Low-Profile Dry Mesic Prairie Seed Mix (to generally be planted above the 745' contour on Basin A, and above the 729' contour on Basin B)

Scientific Name	Common Name	Bloom Time	Bloom Color	Bloom Height	Lbs/Acre
Allium cernuum	Nodding Wild Onion	May-Aug.	Pink/White	1.0-1.5'	0.031
Asclepias syriaca	Common Milkweed	June-August	Pink	2.0-4.0'	0.007
Asclepias tuberosa	Butterfly weed	June-Sept.	Orange	1.5-2.0'	0.063
Bouteloua curtipendula	Side Oats Gramma	July-Aug.	n/a	1.5-3.0'	4.000
Carex annectens	Yellow-fruited Sedge	June-July	n/a	1.5-2.5'	0.031
Carex brevior	"Shorter" Sedge	April-June	n/a	1.0-3.0'	0.015
Cassia fasciculata	Partridge Pea	July-Sept.	Yellow	1.0-2.0'	0.500
Coreopsis lanceolata	Sand Coreopsis	May-July	Yellow	1.0-3.0'	0.500
Dalea candidum	White Prairie Clover	June-Aug.	White	1.5-2.5'	0.015
Dalea purpureum	Purple Prairie Clover	June-Aug.	Purple	1.5-2.5'	0.063
Echinacea purpurea	Purple Coneflower	July-Sept.	Purple	2.0-4.0'	1.000
Elymus canadensis	Canadian Wild Rye	June-July	n/a	2.0-4.0'	1.000
Elymus virginicus	Virginia Wild Rye	June-July	n/a	1.5-3.0'	1.000
Eryngium yuccifolium	Rattlesnake Master	July-Sept.	White	2.0-5.0'	0.125
Monarda fistulosa	Bergamot	July-Sept.	Lavendar	2.0-4.0'	0.062
Panicum virgatum	Switch Grass	July-Nov.	n/a	2.5-6.0'	2.000
Parthenium integrifolium	Wild Quinine	June-Aug.	White	2.0-4.0'	0.125
Penstemon digitalis	Foxglove Beardtongue	May-June	White	1.0-2.5'	0.125
Physostegia virginiana	False Dragonhead	Aug.-Sept.	Pink	2.0-4.0'	0.063
Potentilla arguta	Prairie Cinquefoil	June-Aug.	Yellow	1.0-3.0'	0.015
Ratibida pinnata	Yellow Coneflower	July-Sept.	Yellow	3.0-5.0'	0.500
Rudbeckia hirta	Black-eyed Susan	June-Aug.	Yellow	1.0-2.0'	1.000
Rudbeckia subtomentosa	Sweet Coneflower	June-Aug.	Yellow	2.0-4.0'	0.032
Schizachyrium scoparius	Little Bluestem	July-Nov.	n/a	1.5-3.5'	4.000
Solidago graminifolia	Grass-leaved Goldenrod	Aug.-Sept.	Yellow	1.0-4.0'	0.015
Solidago rigida	Stiff Goldenrod	Aug.-Oct.	Yellow	3.0-6.0'	0.125
Symphyotrichum laevis	Smooth Blue Aster	Aug.-Oct.	Blue	2.0-3.5'	0.063
Symphyotrichum nova angliae	New England Aster	July-Oct.	Blue	3.0-5.0'	0.125
Tradescantia ohiensis	Ohio Spiderwort	May-Sept.	Blue	1.5-2.5'	0.031
Verbena stricta	Hoary Vervain	June-Sept.	Blue	1.0-2.0'	0.125
Zizia aurea	Golden Alexander	April-June	Yellow	1.0-2.5'	0.063
Total					**18.391**

Table 3: Bio-Swale Seed Mix (to be planted within the two bio-swales)

Scientific Name	Common Name	Bloom Height	Lbs/Acre
Bouteloua curtipendula	Side Oats Gramma	1.5-3.0'	6.000
Carex bicknellii	Bicknell's Sedge	1.5-2.0'	0.500
Carex cristatella	Crested Oval Sedge	1.5-2.0'	0.500
Carex vulpinoidea	Brown Fox Sedge	2.0-2.5'	1.000
Echinacea purpurea	Purple Coneflower	2.0-3.0'	1.000
Schizachyrium scoparius	Little Bluestem	1.5-3.5'	2.000
Total			**11.00**

Table 4: Temporary Erosion Control Seed Mix (to be planted with the seed mixes in Tables 1, 2, and 3)

Scientific Name	Common Name	Lbs/Acre
Avena sativa	Oats	40.00
Lolium multiflorum	Annual Rye	4.000
Total		**44.00**

7.0 SEED INSTALLATION

1. Except where site conditions preclude their use, seeding shall be performed using a Truax drill, Truax Trillion seeder, or comparable equipment designed specifically for installation of native seed. For areas where site conditions preclude the use of specialized equipment, seed may be installed through hand broadcasting and lightly raking in the seed. Hand broadcast seed shall be spread at twice the specified rate. Other methods of seed installation may be used with prior approval from the Engineer.

2. Seasonal Considerations:

   November 1 through February 28: Seed must be protected from displacement due to water and wind erosion. Seeding on bare, graded surfaces must be protected with double netted erosion control blankets on slopes. Less cover crop will be observed during the following spring due to frost damage.

   March 1 through June 29: Seeding during this period is appropriate but germination of a portion of the seed may not occur until the following season due to lack of cold stratification to break seed dormancy. Cover crop generally germinates within 2-3 weeks of seeding operation. Seeding on bare, graded surfaces must be protected with erosion control blankets on slopes.

   June 30 through September 15: Installation of native seed should be suspended unless irrigation can be provided or unseasonably cool conditions persist. Also, any annual forbs planted with the mix during this time period may germinate but not have sufficient time to flower before fall senescence. Seeding on bare, graded surfaces must be protected with erosion control blankets on slopes.

   September 15 through October 31: Seeding on bare, graded surfaces must be protected with double netted erosion control blankets on slopes. Less cover crop will be observed during the following spring due to frost damage.

3. Prior to starting work, all seeding equipment shall be calibrated and adjusted to sow seeds at the proper seeding rate. In general, the optimum seeding depth is 0.25 inch below the soil surface. Areas where the seed has not been incorporated into the soil to the proper depths will not be accepted, and no compensation for materials or labor for the rejected work will be made by the Owner.

4. Equipment shall be operated in a manner to ensure complete, uniform coverage of the entire area to be seeded and to avoid damage to existing woody plants. Any area inadequately covered, as solely determined by the Engineer, shall be retreated at no additional cost to the Owner.

5. Seeding and soil tracking/firming shall not be done during periods of rain, severe drought, high winds, excessive moisture, frozen ground, or other conditions that preclude satisfactory results.

6. To achieve best results, seed boxes should be kept more than one-quarter full at all times and ground speed should be no more than 2 to 3 mph.

7. Seeding operations must occur when soil moisture is appropriate for seeding operation.

8. Native plant seed shall not receive fertilizer.

9. Wet seed that is moldy or otherwise damaged in transit or storage shall not be used.

10. After seeding operation is completed, install erosion control blanket per manufacturer's specifications as necessary.

8.0 EROSION CONTROL

1. The Native Landscape Contractor shall be fully responsible for implementing erosion control measures within prescribed planting areas.

2. All disturbed areas or areas of bare soil are recommended to be covered with Erosion Control Blanket Type 1, North American Green S-75 or equivalent. Fall-winter plantings and/or 3:1 slopes require Erosion Control Blanket Type 2, North American Green S-150 or equivalent. Erosion control blanket shall be installed within 24 hours after an area is seeded. See manufacturer's specifications for erosion control blanket composition.

9.0 CLEAN-UP AND PROTECTION

1. During landscape work, store materials and equipment where directed. Keep pavements clean and work areas and adjoining areas in an orderly condition.

2. Protect landscape work and materials from damage due to landscape operations or operations by other trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed by the Engineer.

10.0 INSPECTIONS AND ACCEPTANCE

1. Owner reserves the right to inspect all seeds and plants either at place of growth or at site before planting for compliance with requirements for name, variety, size, quantity, quality or mix proportion.

2. Native Landscape Contractor is to keep records of the certificates of composition or invoices of seed mixtures and integrity of plant materials with respect to species, variety, and source after purchase.

3. Native Landscape Contractor is to notify Owner within five days after completing initial and/or supplemental plantings in each area.

EROSION CONTROL BLANKET

TYPE	APPLICATION	AREA (SY)
S-75	ALL NON-SLOPED AREAS	25,157
S-150	ALL SLOPED AREAS	13,349

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ELGIN SPORTS COMPLEX EXPANSION
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VOLUME 1 OF 2

Owner:
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CHICAGO, IL 60610
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ISSUED FOR	REV	DATE
ISSUE FOR BID	1	04/11/2024

SEALS AND SIGNATURES

KEY PLAN

DRAWING TITLE
NATIVE LANDSCAPE SPECIFICATIONS

SCALE

PROJECT NUMBER
14106

DRAWING NUMBER
LNP-100

MONITORING AND MANAGEMENT PLAN
ELGIN SPORTS COMPLEX

1.0 MONITORING METHODOLOGY

The native planted areas will be monitored annually for a three-year period to ensure successful establishment of the plantings. The primary objective of the monitoring program is to track the success of the planted species over the 3-year period of regularly scheduled monitoring sessions. The monitoring documents changes in plant community composition and reveals the need for management changes to improve floristic quality. Specific goals of the monitoring are to determine the vegetative species present, the percent cover by vegetation, and identify hydrology and erosion problems.

Monitoring within the planted areas shall be conducted annually utilizing a meander survey methodology. The monitoring shall identify:

1. The three most dominant vegetative species within each planting zone,
2. The approximate percent vegetative coverage by native species and non-native species within each designed planting zone, and
3. Water level or drainage problems.

Observations shall be made during the monitoring to identify specific management strategies necessary to reach design goals. Site conditions shall be photo documented during monitoring sessions.

2.0 PERFORMANCE STANDARDS

1. All proposed vegetated areas shall achieve eighty-five percent (85%) cover;
2. All proposed vegetated areas shall achieve a minimum FQI of ten (10) within the three (3) year monitoring period; and
3. All proposed vegetated areas shall not be dominated or contain cumulatively more than ten percent (10%) cover by non-native or invasive species.

3.0 REPORTING

An annual vegetation monitoring report will be submitted to the Owner and the Engineer by February 15th following the monitoring season each year. This report will be used to determine if the natural areas are meeting performance standards. The report shall include information on site location; permit numbers; methodology used (including monitoring dates); data results; summary relative to performance standards; a summary of the annual monitoring observations; a description of the management performed during the year; a list of recommendations for management during the upcoming year; and representative photographs of the natural areas. The naturalized basins and bio-retention areas shall meet certification requirements, associated performance standards, and will be monitored and maintained for a period of three years or until performance standards have been met to ensure successful establishment. Sign-off by the Owner must be granted for the areas to proceed into long-term management.

4.0 SHORT-TERM MANAGEMENT PLAN

1. First Year (Base Bid). Mow the native sloped areas to a height of 6-12 inches, 2-4 times during the early growing season or as needed to control non-native and invasive species. Mowing (including weed whipping) shall take place prior to or when non-native and invasive species are flowering to prevent seed set. Control undesirable plant species, when present in small quantities, by hand pulling prior to the development and maturity of the plant. Hand removal shall include the removal of all aboveground and belowground stems, roots and flower masses prior to development of seeds. Apply herbicide (as necessary) to non-native and invasive perennial species within the naturalized areas with appropriate herbicide. Management site visits should be conducted at a minimum of 3 times annually. Soil erosion and sediment controls shall be regularly maintained.

2. Second Year (Base Bid). Control of undesirable plant species during the second growing season shall consist primarily of selective herbicide application to non-native and invasive perennial species. Selective mowing (including weed whipping) shall be conducted two to four times during the early growing season and as needed to a height of 6 to 12 inches to prevent annual weeds from producing seed. Management site visits should be conducted at a minimum of 3 times annually. Soil erosion and sediment controls shall be regularly maintained.

3. Third Year (Alternate #8). Undesirable plant species will be controlled by selective mowing (including weed whipping), hand pulling, and/or selective herbicide application. At the completion of the third growing season, fire will be introduced to the native planted areas as a supplemental management tool. Trained professionals experienced in the fuel types present shall conduct burning. State and local permits shall be obtained prior to prescribed burning. Prior to a prescribed burn, surrounding property owners as well as local police and fire departments will be notified. A burn plan designating the preferred wind direction and speed, location of firebreaks, and necessary personnel and equipment shall be prepared and utilized in planning and burn implementation. The burn season generally runs from November 1 through April 30 and burns shall be conducted whenever conditions are suitable.

   Alternate #8: Continue to performance management site visit at least 3 times annually during the growing season. Soil erosion and sediment controls shall be regularly maintained.

5.0 HERBICIDE APPLICATION

This section applies to all site preparation and management herbicide application that is proposed to occur on-site.

1. Any person applying herbicide shall hold appropriate licensure for pesticide application in the state of Illinois. A licensed Illinois Pesticide Applicator shall be on-site at all times when herbicide is being applied.

2. Herbicide usage will vary based on site conditions and target species. The following herbicides are allowed for use in natural areas; aquatic approved Glyphosate formulations (Aquaneat®, Rodeo®, etc.), Clethodim (Intensity®, etc.), aquatic approved Imazapyr (Habitat®, etc.), Triclopyr 3A (Tahoe 3A®, Garlon 3A®, etc.), Garlon 4 Ultra® (no substitutions), and Aminopyralid (Milestone®) to control target species. It is the sole responsibility of the Contractor to evaluate the site and select the appropriate herbicide for both site conditions and target species in accordance with herbicide labeling.

ELGIN SPORTS COMPLEX EXPANSION

475 Sports Way,
Elgin, Illinois 60123

VOLUME 1 OF 2

Owner:

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ISSUED FOR	REV	DATE
ISSUE FOR BID	1	04/11/2024

SEALS AND SIGNATURES

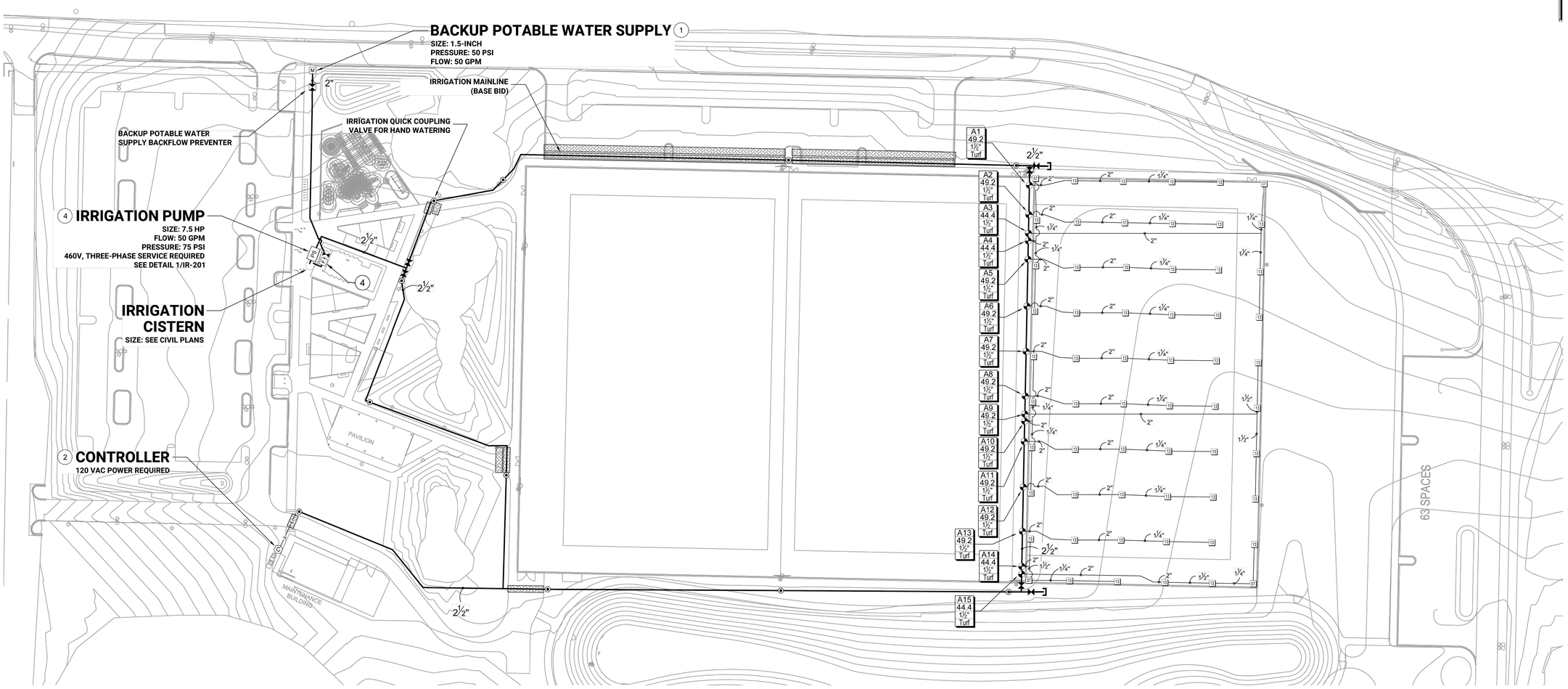
KEY PLAN

DRAWING TITLE
NATIVE LANDSCAPE SPECIFICATIONS

SCALE

PROJECT NUMBER
14106

DRAWING NUMBER
LNP-101



INSTALLATION GENERAL NOTES

1. THE SYSTEM DESIGN ASSUMES A MINIMUM DYNAMIC PRESSURE FOR THE IRRIGATION SYSTEM OF 75 PSI DOWNSTREAM OF THE PUMP STATION, AT A DESIGN FLOW OF 50 GPM AT THE 2-INCH IRRIGATION POINT-OF-CONNECTION (POC). TAP, METER, BACKFLOW PREVENTER, MASTER VALVE AND FLOW METER SHALL BE SIZED AS INDICATED IN THE DRAWING LEGEND. VERIFY PRESSURE AND FLOW ON SITE PRIOR TO CONSTRUCTION.
2. READ THOROUGHLY AND BECOME FAMILIAR WITH THE SPECIFICATIONS AND INSTALLATION DETAILS FOR THIS AND RELATED WORK PRIOR TO CONSTRUCTION.
3. COORDINATE UTILITY LOCATES ("CALL BEFORE YOU DIG") OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
4. DO NOT PROCEED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. IF DISCREPANCIES IN CONSTRUCTION DETAILS, LEGEND, NOTES, OR SPECIFICATIONS ARE DISCOVERED, BRING ALL SUCH OBSTRUCTIONS OR DISCREPANCIES TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.
5. THE DRAWINGS ARE DIAGRAMMATIC. THEREFORE, THE FOLLOWING SHOULD BE NOTED:
   A. ALTHOUGH IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE PLANTING AREAS FOR CLARITY, INSTALL IRRIGATION PIPE AND WIRING IN LANDSCAPED AREAS WHENEVER POSSIBLE.
   B. TREE AND SHRUB LOCATIONS AS SHOWN ON LANDSCAPE PLANS TAKE PRECEDENCE OVER IRRIGATION EQUIPMENT LOCATIONS. AVOID CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING MATERIALS, AND ARCHITECTURAL FEATURES.
   C. USE ONLY STANDARD TEES AND ELBOW FITTINGS. USE OF TEES IN THE BULLNOSE CONFIGURATION, OR USE OF CROSS TYPE FITTINGS IS NOT ALLOWED.
6. PROVIDE THE FOLLOWING COMPONENTS TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT:
   A. TWO (2) OPERATING KEYS FOR EACH TYPE OF MANUALLY OPERATED VALVES.
   B. TWO (2) OF EACH SERVICING WRENCH OR TOOL NEEDED FOR COMPLETE ACCESS, ADJUSTMENT, AND REPAIR OF ALL ROTARY SPRINKLERS.
7. SELECT NOZZLES FOR SPRAY AND ROTARY SPRINKLERS WITH ARCS WHICH PROVIDE COMPLETE AND ADEQUATE COVERAGE WITH MINIMUM OVERSPRAY FOR THE SITE CONDITIONS. CAREFULLY ADJUST THE RADIUS OF THROW AND ARC OF COVERAGE OF EACH ROTARY SPRINKLER TO PROVIDE THE BEST PERFORMANCE.
8. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF IRRIGATION SLEEVING. SLEEVES ARE REQUIRED FOR BOTH PIPING AND ELECTRICAL WIRING AT EACH HARDSCAPE CROSSING. COORDINATE INSTALLATION OF SLEEVING WITH OTHER TRADES. ANY PIPE OR WIRE WHICH PASSES BENEATH EXISTING HARDSCAPE WHERE SLEEVING WAS NOT INSTALLED WILL REQUIRE HORIZONTAL BORING BY THE IRRIGATION CONTRACTOR. PIPE SLEEVES SHALL BE SIZED TWICE THE NOMINAL SIZE OF THE PIPE PASSING THROUGH.
9. INSTALL ALL ELECTRICAL POWER TO THE IRRIGATION CONTROL SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND ALL APPLICABLE LOCAL ELECTRIC UTILITY CODES.
10. THE FOLLOWING SHOULD BE NOTED REGARDING PIPE SIZING: IF A SECTION OF UNSIZED PIPE IS LOCATED BETWEEN TWO IDENTICALLY SIZED SECTIONS, THE UNSIZED PIPE IS THE SAME NOMINAL SIZE AS THE TWO SIZED SECTIONS. THE UNSIZED PIPE SHOULD NOT BE CONFUSED WITH THE DEFAULT PIPE SIZE NOTED IN THE LEGEND.
11. INSTALL TWO (2) #14 AWG CONTROL WIRES ON STANDARD WIRE SYSTEMS OR ONE (1) #14 AWG TWO-WIRE PAIR ON TWO-WIRE SYSTEMS, FOR USE AS SPARES. INSTALL SPARE WIRES FROM CONTROLLER LOCATION TO EACH DEAD-END OF MAINLINE. COIL 3 FEET OF WIRE IN VALVE BOX.

IRRIGATION LEGEND

- POINT-OF-CONNECTION ASSEMBLY
- IRRIGATION MAINLINE CAP ASSEMBLY
- MAINLINE PIPE: **PURPLE CLASS 200 PVC**
  2 1/2-INCH SIZE UNLESS OTHERWISE INDICATED
- SLEEVES: **CLASS 200 PVC**
- IRRIGATION CONTROL WIRES IN CONDUIT OR WITH WARNING TAPE
- LATERAL PIPE TO SPRINKLERS: **PURPLE CLASS 200 PVC**
  1-INCH SIZE UNLESS OTHERWISE INDICATED
- UNCONNECTED PIPE CROSSING
- REMOTE CONTROL VALVE ASSEMBLY FOR SPRINKLER LATERALS:
  HUNTER ICV-FS (SIZED PER PLAN) W/ HUNTER ICD DECODER
- QUICK COUPLING VALVE ASSEMBLY: **HUNTER HQ-5-LRC-R W/ PURPLE LOCKING LID**
  HK-55 QUICK COUPLER KEY AND
  HS-1 SWIVEL FOR 3/4" HOSE
- ISOLATION GATE VALVE ASSEMBLY: **MATCO 514**
- BACKFLOW PREVENTION ASSEMBLY: **FEBCO 825YA (1.5")**
- PS PUMP ASSEMBLY: **SEE SHEET IR-201 FOR SPECIFICATIONS**

A1 / 14 / 1" / Turf
- INDICATES CONTROLLER AND STATION NUMBER
- INDICATES LATERAL DISCHARGE (GPM)
- INDICATES VALVE SIZE (INCHES)
- INDICATES LANDSCAPE APPLICATION

A IRRIGATION CONTROLLER UNIT
WITH **WR-CLIK SENSOR**
A2C-LTE CELL CARTRIDGE
HUNTER A2C-75D-SS TWO WIRE CONTROLLER

POP-UP ROTOR SPRINKLER:
HUNTER I-25-04-SS-R
PRESSURE: 50 PSI

04	NOZZLE	RADIUS: 41'	FLOW: 4.3	GPM
05	NOZZLE	RADIUS: 44'	FLOW: 4.8	GPM
07	NOZZLE	RADIUS: 47'	FLOW: 7.0	GPM
08	NOZZLE	RADIUS: 49'	FLOW: 8.3	GPM
10	NOZZLE	RADIUS: 52'	FLOW: 10.1	GPM
13	NOZZLE	RADIUS: 53'	FLOW: 11.2	GPM
15	NOZZLE	RADIUS: 56'	FLOW: 13.4	GPM
18	NOZZLE	RADIUS: 58'	FLOW: 14.5	GPM
20	NOZZLE	RADIUS: 62'	FLOW: 17.8	GPM
23	NOZZLE	RADIUS: 64'	FLOW: 21.9	GPM
25	NOZZLE	RADIUS: 66'	FLOW: 23.5	GPM
28	NOZZLE	RADIUS: 68'	FLOW: 26.9	GPM

CONSTRUCTION NOTES

1. THE IRRIGATION SYSTEM POINT-OF-CONNECTION (POC) SHALL BE DOWNSTREAM OF THE IRRIGATION WATER TAP AND METER INSTALLED BY OTHERS AT THE APPROXIMATE LOCATION SHOWN. INSTALL BACKFLOW PREVENTION UNIT AND MASTER VALVE ASSEMBLY AS INDICATED. VERIFY EXACT LOCATION OF POC WITH OWNER'S REPRESENTATIVE.
2. PEDESTAL / WALL MOUNT THE IRRIGATION CONTROLLER AT THE APPROXIMATE LOCATION SHOWN. COORDINATE ELECTRICAL POWER TO THE CONTROLLER WITH THE OWNER'S REPRESENTATIVE. CARE SHOULD BE TAKEN TO INSTALL THE IRRIGATION CONTROLLER IN A LOCATION THAT IS ACCESSIBLE FOR MAINTENANCE, AND SCREENED FROM VIEW EITHER BEHIND ENTRY WALLS, NEXT TO BUILDINGS, OR BEHIND PLANT MATERIAL. FINAL LOCATION TO BE APPROVED BY OWNER'S REPRESENTATIVE.
3. VALVES LABELED 'A' ARE PART OF THE BASE BID PACKAGE. VALVES LABELED 'B' ARE PART OF THE ALTERNATE BID PACKAGE.
4. POTABLE FILL VALVE AND FLOW SENSOR TO BE MOUNTED IN ENCLOSURE ON EXTERIOR BUILDING WALL.

BASE BID ESTIMATED ANNUAL WATER USE

THE IRRIGATION SYSTEM AS SHOWN ON THIS PLAN HAS AN ESTIMATED ANNUAL WATER USE OF 2,179,444 GALLONS. TO VERIFY EFFICIENT IRRIGATION SYSTEM OPERATION, THE OWNER SHALL COMPARE THIS ESTIMATED IRRIGATION WATER USE WITH ACTUAL WATER USE, AS RECORDED ON SITE, AFTER ALL PLANT MATERIAL HAS BEEN ESTABLISHED.

THE ESTIMATED ANNUAL IRRIGATION WATER USE OF THIS SYSTEM IS BASED ON 30-YEARS AVERAGE EVAPOTRANSPIRATION RATES (ET) FOR THE LOCAL AREA AND TYPICAL NEW IRRIGATION SYSTEM EQUIPMENT EFFICIENCIES. MAJOR DEVIATIONS FROM THIS ESTIMATE USE SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER AND CURRENT IRRIGATION MAINTENANCE COMPANY AT THE TIME OF THE DEVIATION.

TO VERIFY EFFICIENT IRRIGATION SYSTEM OPERATION AND WATER USE, AN IRRIGATION SYSTEM EVALUATION AND AUDIT SHOULD BE PERFORMED.

ALTERNATE BID ESTIMATED ANNUAL WATER USE

THE IRRIGATION SYSTEM AS SHOWN ON THIS PLAN HAS AN ESTIMATED ANNUAL WATER USE OF 1,170,650 GALLONS. TO VERIFY EFFICIENT IRRIGATION SYSTEM OPERATION, THE OWNER SHALL COMPARE THIS ESTIMATED IRRIGATION WATER USE WITH ACTUAL WATER USE, AS RECORDED ON SITE, AFTER ALL PLANT MATERIAL HAS BEEN ESTABLISHED.

THE ESTIMATED ANNUAL IRRIGATION WATER USE OF THIS SYSTEM IS BASED ON 30-YEARS AVERAGE EVAPOTRANSPIRATION RATES (ET) FOR THE LOCAL AREA AND TYPICAL NEW IRRIGATION SYSTEM EQUIPMENT EFFICIENCIES. MAJOR DEVIATIONS FROM THIS ESTIMATE USE SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER AND CURRENT IRRIGATION MAINTENANCE COMPANY AT THE TIME OF THE DEVIATION.

TO VERIFY EFFICIENT IRRIGATION SYSTEM OPERATION AND WATER USE, AN IRRIGATION SYSTEM EVALUATION AND AUDIT SHOULD BE PERFORMED.

HAND WATERING ESTIMATED ANNUAL WATER USE

THE IRRIGATION SYSTEM AS SHOWN ON THIS PLAN HAS AN ESTIMATED ANNUAL WATER USE OF 1,773,499 GALLONS. TO VERIFY EFFICIENT IRRIGATION SYSTEM OPERATION, THE OWNER SHALL COMPARE THIS ESTIMATED IRRIGATION WATER USE WITH ACTUAL WATER USE, AS RECORDED ON SITE, AFTER ALL PLANT MATERIAL HAS BEEN ESTABLISHED.

THE ESTIMATED ANNUAL IRRIGATION WATER USE OF THIS SYSTEM IS BASED ON 30-YEARS AVERAGE EVAPOTRANSPIRATION RATES (ET) FOR THE LOCAL AREA AND TYPICAL NEW IRRIGATION SYSTEM EQUIPMENT EFFICIENCIES. MAJOR DEVIATIONS FROM THIS ESTIMATE USE SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER AND CURRENT IRRIGATION MAINTENANCE COMPANY AT THE TIME OF THE DEVIATION.

TO VERIFY EFFICIENT IRRIGATION SYSTEM OPERATION AND WATER USE, AN IRRIGATION SYSTEM EVALUATION AND AUDIT SHOULD BE PERFORMED.

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90% CONSTRUCTION DOCUMENTS		01/31/2024

SEALS AND SIGNATURES

KEY PLAN
PROJECT NORTH

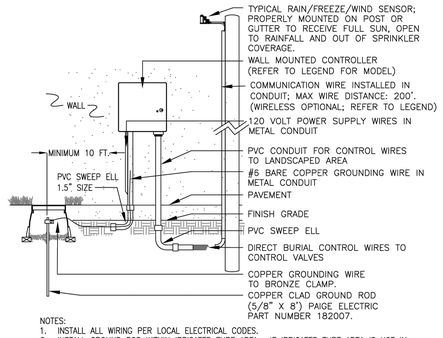
DRAWING TITLE
IRRIGATION PLAN

0' 25' 50' 100'
SCALE: 1" = 50'

SCALE 14106

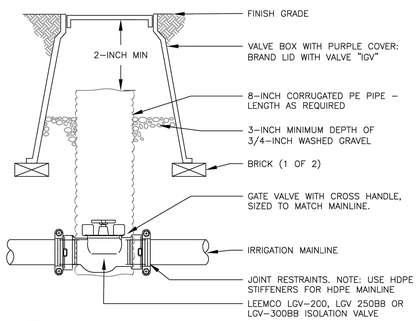
PROJECT NUMBER
IR-100

DRAWING NUMBER



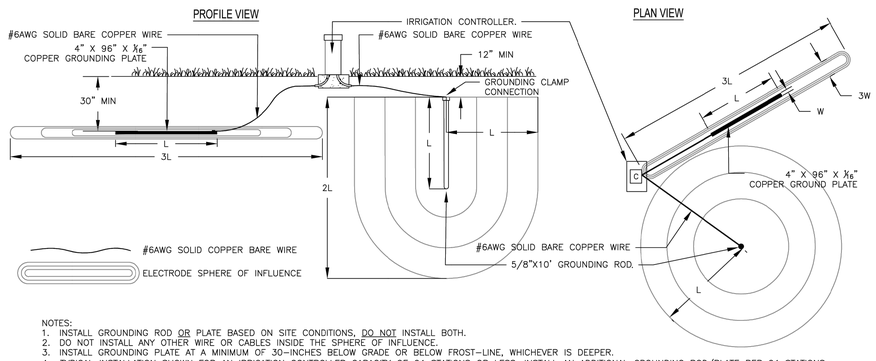
NOTES:
1. INSTALL ALL WIRING PER LOCAL ELECTRICAL CODES.
2. INSTALL GROUND ROD WITHIN IRRIGATED TURF AREA. IF IRRIGATED TURF AREA IS NOT IN CLOSE PROXIMITY TO CONTROLLER, INSTALL ONE (1) DRIP EMITTER FROM NEAREST DRIP VALVE IN VALVE BOX HOUSING GROUNDING ROD.

1 WALL MOUNT CONTROLLER ASSEMBLY



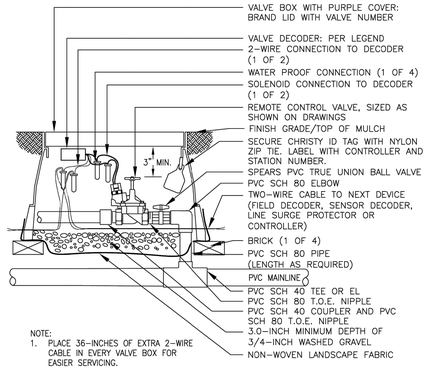
NOTES:
1. NOMINAL SIZE OF GATE VALVE TO MATCH NOMINAL MAINLINE SIZE.

2 ISOLATION GATE VALVE ASSEMBLY 2, 2.5 & 3-INCH MAINLINE



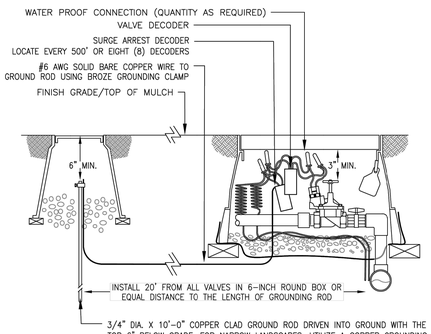
NOTES:
1. INSTALL GROUNDING ROD OR PLATE BASED ON SITE CONDITIONS, DO NOT INSTALL BOTH.
2. DO NOT INSTALL ANY OTHER WIRE OR CABLES INSIDE THE SPHERE OF INFLUENCE.
3. INSTALL GROUNDING PLATE AT A MINIMUM OF 30-INCHES BELOW GRADE OR BELOW FROST-LINE, WHICHEVER IS DEEPER.
4. TYPICAL INSTALLATION SHOWN FOR AN IRRIGATION CONTROLLER CAPACITY OF 64 STATIONS OR LESS, INSTALL AN ADDITIONAL GROUNDING ROD/PLATE PER 64 STATIONS.

3 TYPICAL IRRIGATION CONTROLLER GROUNDING ROD OR PLATE INSTALLATION

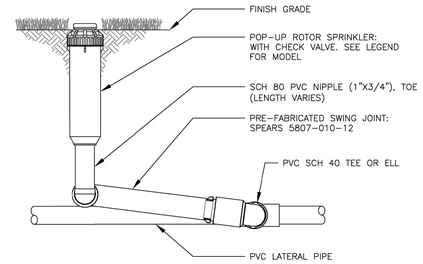


NOTE:
1. PLACE 36-INCHES OF EXTRA 2-WIRE CABLE IN EVERY VALVE BOX FOR EASIER SERVICING.

4 REMOTE CONTROL SPRINKLER VALVE ASSEMBLY

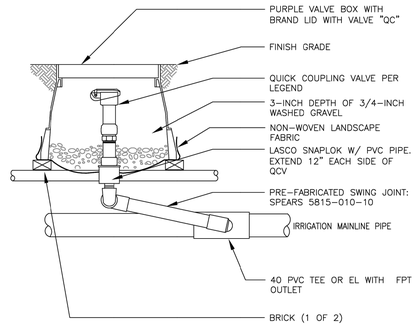


5 TYPICAL GROUNDING (AT VALVE) ASSEMBLY

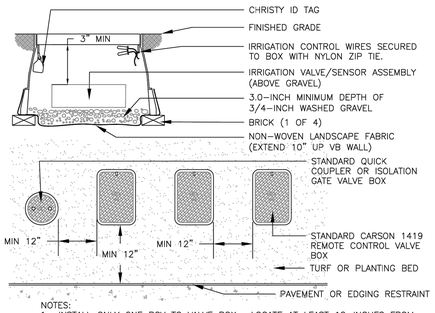


NOTES:
1. INSTALL PLASTIC RISERS FOR ROTORS IN NATIVE AREAS.

6 6-INCH GEAR DRIVEN ROTOR ASSEMBLY W/SWING JOINT

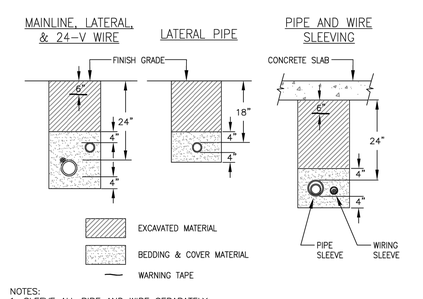


7 QUICK COUPLING VALVE ASSEMBLY



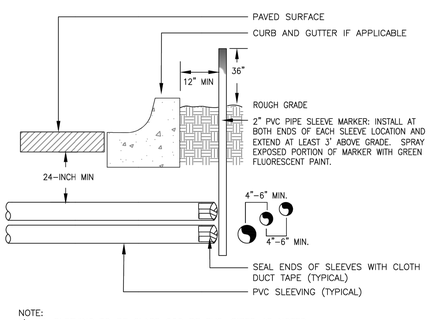
NOTES:
1. INSTALL ONLY ONE RCV TO VALVE BOX. LOCATE AT LEAST 12-INCHES FROM AND ALIGN WITH NEARBY WALLS OR EDGES OF PAVED AREAS. GROUP RCV ASSEMBLIES TOGETHER WHERE PRACTICAL.
4. GROUP RCV ASSEMBLIES TOGETHER WHERE PRACTICAL, BUT AVOID GROUPING MORE THAN THREE (3) STANDARD VALVE BOXES TOGETHER IN A SERIES.
5. ARRANGE GROUPED VALVE BOXES IN RECTANGULAR PATTERNS.

8 TYPICAL VALVE BOX INSTALLATION



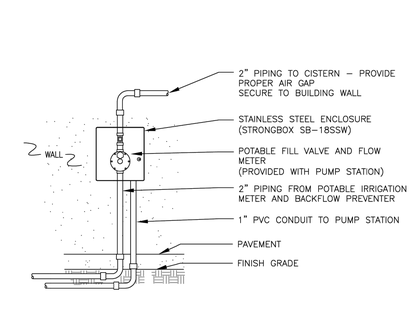
NOTES:
1. SLEEVE ALL PIPE AND WIRE SEPARATELY.
2. ALL PIPE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS."SNAKE" UNSLEEVED PLASTIC PIPE IN TRENCH. PROVIDE A MINIMUM OF 2" CLEARANCE TO SIDE OF TRENCH AND BETWEEN PIPES.
3. ALL 120-V WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS. PROVIDE LOOSE 20" LOOP OF 2-WIRE CABLE AT ALL CHANGES OF DIRECTION OVER 30 DEGREES.

9 TYPICAL TRENCHING DETAIL

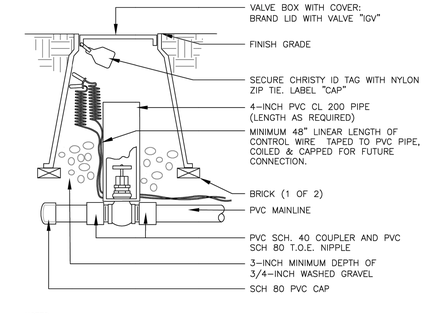


NOTE:
1) ALL SLEEVING TO BE CLASS 200 BE PVC, SIZED AS NOTED.
2) INSTALL SLEEVES IN SIDE-BY-SIDE CONFIGURATION WHERE MULTIPLE SLEEVES ARE TO BE INSTALLED. SPACE SLEEVES 4" TO 6" APART. DO NOT STACK SLEEVES VERTICALLY.

10 TYPICAL SLEEVING DETAIL



11 POTABLE CONTROL VALVE AND FLOW METER



NOTES:
1. NOMINAL SIZE OF GATE VALVE TO MATCH NOMINAL MAINLINE SIZE.
2. INSTALL SCH 80 PVC CAP A MINIMUM OF 4-INCHES DOWNSTREAM OF ISOLATION GATE VALVE FOR FUTURE INSTALLATION OF SCH 80 PVC COUPLER.

12 MAINLINE & CONTROL WIRE STUB-OUT (FUTURE CONNECTION)

ELGIN SPORTS COMPLEX EXPANSION

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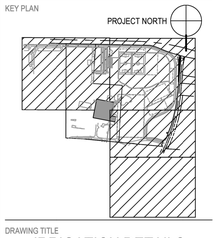
SEALS AND SIGNATURES

002932

KEY PLAN



DRAWING TITLE
IRRIGATION DETAILS

Hines Inc
SITE WATER ENGINEERING SERVICES
323 W. DRAKE RD, SUITE 204
FORT COLLINS, COLORADO 80526
Telephone: 970.282.1800
Web: www.hinesinc.com

SCALE
14106

PROJECT NUMBER
IR-200

DRAWING NUMBER

PUMP STATION SPECIFICATIONS:
NAME: ELGIN SOCCER IRRIGATION PUMP
PUMP STATION TO BE MANUFACTURED BY WATERTRONICS,
PRECISION PUMPING, OR APPROVED EQUAL.
BASIS OF DESIGN: WATERTRONICS SKYHARVESTER
CONTACT ERIC PIFER @ 262-224-3263 FOR PRICING

STATION MODEL: SHFV-1-(?K)-7.5-460-3-50-75
STATION TOTAL PERFORMANCE: 50 GPM @ 75 PSI
DISCHARGE REGULATE PRESSURE: 75 PSI

PUMP NO.1: 7.5HP (3600 RPM)
PUMP STATION INTAKE CONNECTION SIZE: 2"
PUMP STATION DISCHARGE CONNECTION SIZE: 2"
UL LISTED UNDER: UL-QCZJ PACKAGED PUMP STATION

POWER REQUIREMENTS
460V - 3PHZ - 60HZ - 15 FULL LOAD AMPS

STATION COMPONENTS:
1. PUMP AND MOTOR
2. INLET PRESSURE / VACUUM GAUGE
3. PRESSURE TRANSDUCER w/ GAUGE
4. DISCHARGE ISOLATION VALVE
5. ALUMINUM DEAD-FRONT HIGH VOLTAGE DISCONNECT PANEL (UNPAINTED)
6. MARINE GRADE ALUMINUM ENCLOSURE (UNPAINTED)
7. MARINE GRADE ALUMINUM BASE (UNPAINTED)
8. VARIABLE FREQUENCY DRIVE
9. PUMP STATION ENCLOSURE FAN
10. CHECK VALVE
11. MAIN DISCONNECT SWITCH
12. LOW LEVEL FLOAT
13. 1" BLOW OUT PORT
14. FLOW SENSOR
15. PUMP VOLUTE TEMP SENSOR
16. INTAKE ISOLATION VALVE
17. SCH. 40 EPOXY COATED STEEL PIPE
18. GROOVE CONNECTION FOR 360deg SWIVEL
19. LEVEL TRANSDUCER
20. CITY WATER FILL VALVE
21. CITY WATER FLOW SENSOR

FIELD WIRE SCHDULE:
LEVEL SENSOR: 18AWG (2) COND. SHIELDED 500FT MAX
LEVEL FLOAT: 14AWG (2) COND.
CITY FLOW SENSOR: 18AWG (2) COND. SHIELDED 500FT MAX
CITY SOLENOID VALVE: 14AWG (2) COND.

CONTROL PANEL TO INCLUDE:
-COLOR TOUCHSCREEN OPERATOR INTERFACE
-FILTER CONTROLS AND DISPLAY
-FLOW SENSOR DISPLAY AND TOTALIZERS
-PSI DISPLAY AND SET POINTS
-AUTO RE-ENABLING OF PUMP BASED UPON WATER AVAILABILITY
-PUMP RUNNING STATUS & RUN-TIME HRS
-LEVEL CONTROLS AND DISPLAY IN "INCHES" & "GALLONS"
-USER ABILITY TO ADJUST SYSTEM PARAMETERS
-VFD PRESSURE REGULATION FOR ENERGY EFFICIENCY
-BRANCH CIRCUIT PROTECTION
-U.L. 508 LISTED CONTROL PANEL ASSEMBLY
-PROGRAMABLE PLC "programable logic controller"
-NON-FUSABLE MAIN DISCONNECT
-HOA (hand, off, auto) SWITCH FOR PUMP
-SERIAL MODBUS PLC CAPABILITY

DESCRIPTION OF OPERATION:

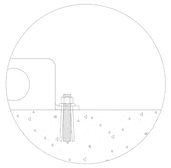
PUMP WILL START VIA PRESSURE DROP SENSED
IN WATER MAINLINE AND REGULATE A CONSTANT
PRESSURE AT VARIABLE FLOW RATE. PUMP WILL RETIRE
BASED UPON AN ADJUSTABLE MINIMUM WATER DEMAND (FLOW)
AND SUSTAINED REGULATE PRESSURE.

WATER WILL BE DRAWN OUT OF TANK. ONCE USER ADJUSTABLE
LEVEL SETPOINT IS SATISFIED THE CITY FILL VALVE WILL OPEN ALLOWING WATER
TO ENTER INTO THE STORAGE TANK. CITY WATER LEVEL CONTROLS WILL BE SET
SO TO MAINTAIN A LOW WATER LEVEL IN THE TANK, LEAVING THE MOST AMOUNT
OF ROOM TO HARVEST THE NEXT RAINFALL EVENT. IF TANK LEVEL CONTINUES TO
DROP WITH FILL VALVE OPEN, PUMP WILL SHUT DOWN ON LOW LEVEL ALARM.
PUMP WILL RE-ENABLE UPON USER ADJUSTABLE ALARM RE-SET LEVEL. FILL
VALVE WILL REMAIN OPEN AND OPERATE INDEPENDENTLY OF PUMP ALARM
LOGIC.

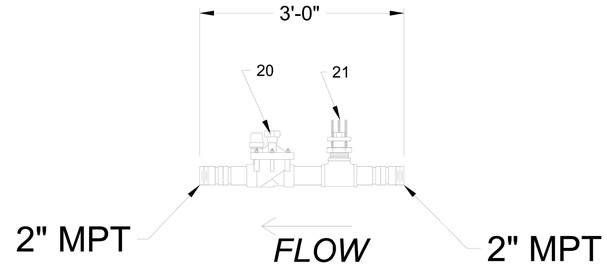
PUMP SYSTEM WILL TOTALIZE ALL WATER PUMPED AND ALL CITY MAKE UP
WATER USED.

CITY WATER CAPACITY MUST SUPPLY A MIN 50GPM TO TANK.

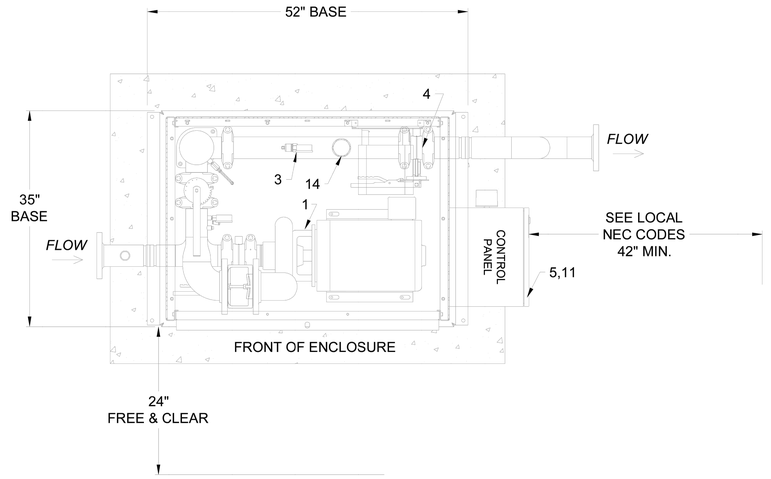
SYSTEM SHALL HAVE THE FOLLOWING ALARMS AT MINIMUM
-HIGH DISCHARGE PRESSURE
-LOW DISCHARGE PRESSURE
-VFD FAULT
-LOW LOW LEVEL SHUT DOWN (HARD FAULT)
-LOW LEVEL ALARM (SOFT FAULT)
-FILTER ALARM
-PIPE FILL ALARM (SYSTEM CAN NOT PRESSURIZE)
-LOSS OF PHASE OR PHASE REVERSAL
-HIGH VOLTAGE
-LOW VOLTAGE
-CONTROL POWER ALARM

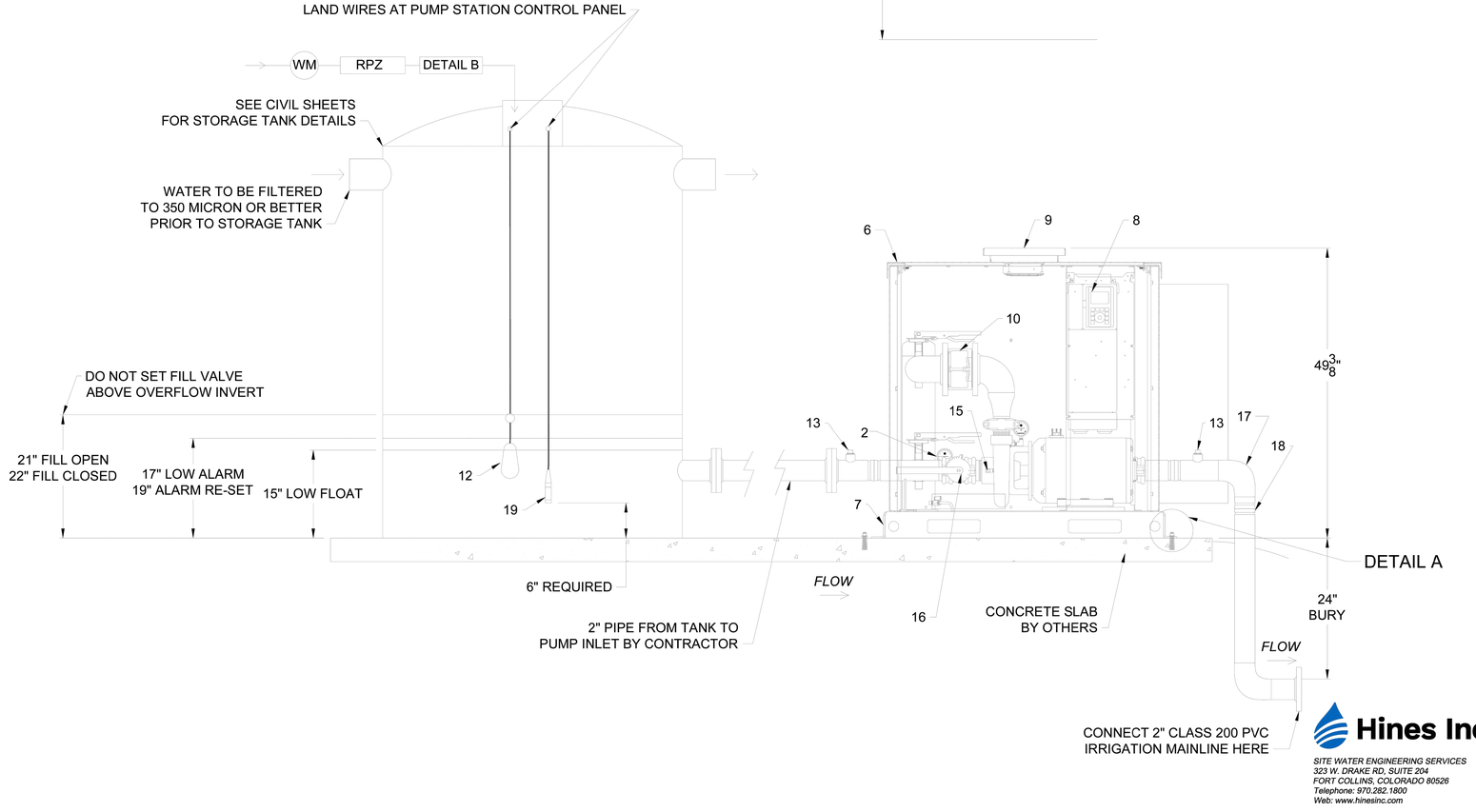


DETAIL "A"
CONCRETE ANCHOR
TYPICAL (4) LOCATIONS



DETAIL B: POTABLE TANK FILL LINE DETAIL: NTS
INSTALL IN MECHANICAL ROOM OR OUTDOOR VALVE BOX
(VALVE BOX MUST DRAIN TO PREVENT FLOODING)





PUMP STATION GENERAL NOTES

1. VERIFY EXISTING POWER ONSITE PRIOR TO ORDERING PUMP. PUMP POWER RATING MUST MATCH EXISTING POWER ONSITE.
2. MAINTAIN NEC CLEARANCES AROUND PUMP FOR MAINTENANCE ACCESS PER LOCAL CODE.
3. PUMP STATION MUST BE DRAINED & WINTERIZED IN COLD WEATHER CLIMATES

1 IRRIGATION PUMP DETAILS
SCALE NTS

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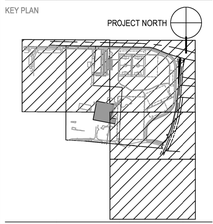

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PROJECT NUMBER
IR-201
DRAWING NUMBER

ELECTRICAL ABBREVIATIONS

A	
A	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME (BREAKER RATING)
AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
ALT	ALTERNATE
ARCH	ARCHITECT
AT	AMPERES TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
B	
BRKR, BKR	BREAKER
BLDG	BUILDING
C	
C	CONDUIT
CB	CIRCUIT BREAKER
CATV	CABLE TELEVISION
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
COM, COMM	COMMUNICATIONS
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
D	
DC	DIRECT CURRENT
DISC	DISCONNECT
DIST	DISTRIBUTION
DIV	DIVISION
DN	DOWN
DP	DISTRIBUTION PANEL
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DWG	DRAWING
E	
EG	EQUIPMENT GROUND
ELEC	ELECTRIC, ELECTRICAL
EM, EMERG	EMERGENCY
ELEV	ELEVATOR
EMT	ELECTRIC METALLIC CONDUIT
ENCL	ENCLOSURE
EQ, EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
E, EX, EXIST	EXISTING
F	
F	FUSE
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FAEP	FIRE ALARM EXTENDER PANEL
FC	FOOT CANDLE
FDR	FEEDER
FL, FLR	FLOOR
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLUOR	FLUORESCENT
FT	FOOT/FEET (')
G	
G, GND, GRD	GROUND
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
H	
H	HORIZONTAL MOUNTING
HH	HAND HOLE
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HR	HOUR
HT	HEIGHT
HTR	HEATER
HVAC	HEATING VENTILATION AND AIR CONDITIONING
HZ	HERTZ
I	
IG	ISOLATED GROUND
IN	INCH/INCHES (")
INCAND	INCANDESCENT
J	
JB, JBOX	JUNCTION BOX
K	
K	KEY INTERLOCK
Kcmil	1000 CIRCULAR mils
KV	KILOVOLTS (THOUSAND VOLTS)
KVA	KILOVOLTS-AMPERES (THOUSAND VOLT-AMPS)
KW	KILOWATTS (THOUSAND WATTS)
KWH	KILOWATT-HOURS
L	
LA	LIGHTNING ARRESTOR
LAN	LOCAL AREA NETWORK
LC, LCP	LIGHTING CONTROL PANEL
LP	LIGHTING PANEL
L-L	LINE TO LINE
L-N	LINE TO NEUTRAL
L-G	LINE TO GROUND
LSI	LONG-TIME, SHORT-TIME, INSTANTANEOUS
LSIA	LONG-TIME, SHORT-TIME, INSTANTANEOUS, GROUND-FAULT ALARM ONLY
LSIG	LONG-TIME, SHORT-TIME, INSTANTANEOUS, GROUND-FAULT
LTG	LIGHTING
LV	LOW VOLTAGE (BELOW 50 VOLTS)
M	
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE (OVER 600V LESS THAN 35KV)
N	
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO., NUM, #	NUMBER
NTS	NOT TO SCALE
O	
OC	ON CENTER
OCPD	OVERCURRENT PROTECTION DEVICE
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OH	OVERHEAD
OHE/T	OVERHEAD ELECTRIC/TELEPHONE
OPP	OPPOSITE
P	
P	POLE
PA	PUBLIC ADDRESS
PB	PULL BOX
PDP	POWER DISTRIBUTION PANEL
PE	PHOTO ELECTRIC
PF	POWER FACTOR
PH, Ø	PHASE
PNL	PANEL
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PWR	POWER
Q	
QTY	QUANTITY
R	
R, RE	RELOCATE AS SHOWN
RCLP	REMOTE CONTROL LIGHTING PANEL
RCPT	RECEPTACLE
REF	REFRIGERATOR
RF	RADIO FREQUENCY
RSC	RIGID STEEL CONDUIT
RLA	RATED (RUNNING) LOAD AMPS
RM	ROOM
RP	RECEPTACLE PANELBOARD
S	
SCH, SCHED	SCHEDULE
SEC	SECONDARY
SF	SQUARE FOOT
SPKR	SPEAKER
SPEC(S)	SPECIFICATION(S)
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
STD	STANDARD
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
T	
TB	TERMINAL BLOCK
TBB	TELEPHONE BACKBOARD
TC	TIME CLOCK
TEL,TELE	TELEPHONE
TELECOM	TELECOMMUNICATIONS
TP	TAMPERPROOF
TV	TELEVISION
TYP	TYPICAL
U	
UG	UNDERGROUND
UGP	UNDERGROUND PRIMARY
UGS	UNDERGROUND SECONDARY
UGT	UNDERGROUND TELEPHONE
UL	UNDERWRITER'S LABORATORY
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	
V	VOLTS
VA	VOLT-AMPERES
VFD	VARIABLE FREQUENCY DRIVE/ VARIABLE FREQUENCY MOTOR CONTROLLER
W	
W	WIRE
W/	WITH
W/O	WITHOUT
WHM	WATT HOUR METER
WP	WEATHERPROOF
X	
X	REMOVE DEVICE
XFMR	TRANSFORMER
Z	
% Z	PERCENT IMPEDANCE

ELECTRICAL LIGHTING SYMBOLS

- SITE FLAGPOLE UPLIGHT FIXTURE - TYPE AS INDICATED
- SITE PEDESTRIAN LIGHT POLE FIXTURE - TYPE AS INDICATED
- SITE ROADWAY/PARKING LIGHT POLE FIXTURE - TYPE AND NUMBER OF ARMS AS INDICATED
- SITE SPORTS FIELD LIGHT POLE FIXTURE - TYPE AS INDICATED
- SITE SHELTER LINEAR LIGHT FIXTURE - TYPE AS INDICATED
- XX — LIGHTING FIXTURE TYPE DESIGNATION - "XX" INDICATES SPECIFIC TYPE
- $ — SINGLE POLE LOCAL DIMMING OVERRIDE SWITCH.

ELECTRICAL WIRING SYMBOLS

Symbol	Description
A-1	HOMERUN TO PANEL WITH CIRCUIT NUMBER(S) AS INDICATED
	CONDUIT RUN CONCEALED IN FINISHED AREAS, EXPOSED IN UNFINISHED AREAS OR BELOW ACCESS FLOORS
	CONDUIT CAST IN CONCRETE OR BELOW SLAB
T	TELECOM CONDUIT/DUCTBANK
E	UNDERGROUND CONDUIT/DUCTBANK
G	GROUND CABLE, SIZE AS INDICATED
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
HH1	HANDHOLE (DISTRIBUTION): SIZED BY CONTRACTOR MINIMUM TIER: 15, MINIMUM SIZE: 10" X 15" X 12"D B.O.D.: QUAZITE POLYMER CONCRETE OR FIBERGLASS PG/PC TYPE, WITH GASKETED COVER "ELECTRIC", BARRIERS TO SEPARATE CIRCUITS OF DIFFERENT VOLTAGES WHERE REQUIRED.
HH2	HANDHOLE (DISTRIBUTION): SIZED BY CONTRACTOR MINIMUM TIER: 15, MINIMUM SIZE: 11" X 18" X 18"D B.O.D.: QUAZITE POLYMER CONCRETE OR FIBERGLASS PG/PC TYPE, WITH GASKETED COVER "ELECTRIC", BARRIERS TO SEPARATE CIRCUITS OF DIFFERENT VOLTAGES WHERE REQUIRED.
HH3	HANDHOLE (DISTRIBUTION): SIZED BY CONTRACTOR MINIMUM TIER: 15, MINIMUM SIZE: 13" X 24" X 18"D B.O.D.: QUAZITE POLYMER CONCRETE OR FIBERGLASS PG/PC TYPE, WITH GASKETED COVER "ELECTRIC", BARRIERS TO SEPARATE CIRCUITS OF DIFFERENT VOLTAGES WHERE REQUIRED.
HHT	HANDHOLE (TELECOM): MINIMUM TIER: 15, MINIMUM SIZE: 30" X 48" X 24"D B.O.D.: QUAZITE POLYMER CONCRETE OR FIBERGLASS PG/PD TYPE WITH GASKETED COVER "FIBER"
FB1	OUTDOOR GROUND BOX WITH COVER AND WITH UL LISTING UL50E PROVIDED WITH (2) DUPLEX RECEPTACLES IN GRAY FINISH B.O.D.: LEGRAND XB814C520C2GY
P1	2-GANG OUTDOOR POWER PEDESTAL WITH LOCKABLE WHILE NOT IN USE HINGED COVER AND INTERNAL DIVIDER. PROVIDED WITH (1) 50A RECEPTACLE IN BLACK FINISH AND 30" TALL. B.O.D.: LEGRAND XPP2G30CD-BK
CB1	EXTERIOR NEMA 3R ENCLOSED CIRCUIT BREAKER PROVIDE WITH CAPACITY FOR (2)1P/20A GFCI CIRCUIT BREAKERS AND MOUNT TO POLE B.O.D.: EATON, SQUARE-D, SIEMENS, GE
JB1	EXTERIOR NEMA 3R JUNCTION BOX PROVIDE WITH CAPACITY FOR (2) 120V, 40A CIRCUITS AND AND MOUNT TO POLE
PC	PUMP CONTROLLER. TYPE PER PUMP MANUFACTURER
DS1	EXTERIOR NEMA 3R HEAVY DUTY DISCONNECT SWITCH PROVIDE WITH RATING REQUIRED BY MANUFACTURER (MINIMUM RATING 100A) B.O.D.: EATON, SQUARE-D, SIEMENS, GE
RCPT1	(1) EXTERIOR WEATHERPROOF METAL 1-GANG RECEPTACLE WITH LOCKABLE WHILE IN USE COVER. PROVIDE WITH (1) GFCI RECEPTACLE. B.O.D.: HUBBELL TAYMAC MX4280Z
RCPT2	(2) EXTERIOR WEATHERPROOF METAL 1-GANG RECEPTACLES WITH LOCKABLE WHILE IN USE COVERS. PROVIDE WITH (2) GFCI RECEPTACLES FED FROM SAME CIRCUIT AND MOUNT TO POLE B.O.D.: HUBBELL TAYMAC MX3200
LC-#	120/240V, SINGLE PHASE, 16-POLE, LOAD CENTER WITH NEMA-3R ENCLOSURE FOR POWER DISTRIBUTION TO SCOREBOARD AND SHELTER. PROVIDE LOAD CENTER CABINET AND COVER WITH BLACK FINISH. COVER AND PROTECT ALL OPENINGS AND INTERIOR EQUIPMENT AND PREP AND PRIME SURFACES PER MANUFACTURERER INSTRUCTIONS PRIOR TO PAINTING AND PROVIDE CLEAR COAT AFTER. PAINT TYPE TO BE COMPATIBLE WITH MATERIAL SURFACE. CONTRACTOR REQUIRED TO MAINTAIN ALL WARRANTIES ON EQUIPMENT AND TO GET CONFIRMATION FROM MANUFACTURER PRIOR TO PAINTING. ALL LABELS AND NAMEPLATES SHALL BE COVERED AND NOT PAINTED OVER. B.O.D.: SQUARE-D QO816L100RB

ELECTRICAL EQUIPMENT SYMBOLS

- MOTOR AND CONNECTION
- DISCONNECT SWITCH, NON-FUSED
PROVIDE SWITCH AMPACITY EQUAL TO OR GREATER THAN FEEDER AMPACITY, UON
- DISCONNECT SWITCH, FUSED.
PROVIDE SWITCH AND FUSE AMPACITY EQUAL TO OR GREATER THAN FEEDER AMPACITY, UON
- CB — CIRCUIT BREAKER IN NEMA 1 ENCLOSURE (FLUSH/SURFACE)
- COMBINATION MOTOR STARTER WITH DISCONNECT SWITCH.
PROVIDE SWITCH AND FUSE AMPACITY EQUAL TO OR GREATER THAN FEEDER AMPACITY, UON
- HAND-OFF-AUTO SELECTOR SWITCH WITH PILOT LIGHT
- $M — MANUAL MOTOR STARTER WITH PILOT LIGHT AS INDICATED.
- C — CONTACTOR
- GROUNDING BUS BAR

GENERAL NOTES

A. PROVIDE 1#12 + 1#12N + 1#12G FOR 20A BRANCH CIRCUITING, UON; MAXIMUM OF THREE CIRCUITS PER CONDUIT; MINIMUM CONDUIT SIZE OF 1" C, UON.

B. PROVIDE A DEDICATED NEUTRAL WIRE FOR EACH LINE TO NEUTRAL BRANCH CIRCUIT.

C. COORDINATE DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.

D. INSTALL ELECTRICAL WORK IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL BUILDING AND FIRE CODES, IN A NEAT AND WORKMANLIKE MANNER.

E. LIMIT VOLTAGE DROP TO 2% FOR FEEDERS AND 3% FOR BRANCH CIRCUITS. INCLUDE DERATING FACTOR FOR EXTERIOR SURFACE-MOUNTED CONDUITS.

F. PROVIDE FEEDERS AND BRANCH CIRCUITS WHICH HAVE AN AMPACITY EQUAL TO OR GREATER THAN THE CIRCUIT OVER CURRENT PROTECTIVE DEVICE RATING, U.O.N.

G. PRIOR TO PROCUREMENT OF ANY MATERIALS ON THE PROJECT, SUBMIT DATA SHEETS TO THE PROJECT MANAGER FOR APPROVAL. NO SUBMITTALS ARE REQUIRED FOR CONSUMABLE ITEMS, SUCH AS FASTENERS AND FITTINGS.

H. AS-BUILT DRAWINGS SHALL BE PROVIDED TO THE PROJECT MANAGER AT THE COMPLETION OF THE INSTALLATION. A COPY OF THE PANEL SCHEDULES SHALL BE PROVIDED IN THE AFFECTED PANELS.

ELGIN SPORTS COMPLEX EXPANSION

475 Sports Way,
Elgin, Illinois 60123

VOLUME 1 OF 2

Owner:

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SEALS AND SIGNATURES

KEY PLAN

DRAWING TITLE
ELECTRICAL SYMBOLS LIST AND ABBREVIATIONS

SCALE: N.T.S.

SCALE

PROJECT NUMBER: 14106

DRAWING NUMBER: E-000

FEEDER & BRANCH CIRCUIT SIZING SCHEDULE - NONLINEAR LOADS

(NOTES 1 & 2)

OVERCURRENT DEVICE RATING (AMPERES)	WIRE SIZE - AWG OR KCMIL		CONDUIT SIZE			NOTE
	PHASE & NEUTRAL	E.G.	4 WIRE (2PH & 2N)	5 WIRE (NOTE-7)	6 WIRE (3PH & 3N)	
15-20	12	12	3/4"	3/4"	3/4"	
25-30	10	10	3/4"	3/4"	3/4"	
35-40	8	10	3/4"	1"	1"	
45-50	8(6)	10	3/4"(1")	1"	1"(1 1/4")	
60	6(4)	10	1"(1 1/4")	1"(1 1/4")	1 1/4"	
70	6(4)	8	1"(1 1/4")	1"(1 1/4")	1 1/4"	
80-90	4(2)	8	1 1/4"	1 1/4"(1 1/2")	1 1/4"(1 1/2")	
100	3(2)	8	1 1/4"	1 1/2"	1 1/2"	
110	2(1)	6	1 1/2"	2"	2"	
125	1(1/0)	6	1 1/2"(2")	2"	2"	
150	1/0	6	2"	2"	2"	
175	2/0	6	2"	2"	2 1/2"	
200	3/0	6	2"	2 1/2"	2 1/2"	
225	4/0	4	2 1/2"	2 1/2"	3"	
250	250	4	3"	3"	3"	
300	350	4	3"	3 1/2"	3 1/2"	
350	500	3	3 1/2"	4"	4"	
400	2-3/0	2-3	2-2"	2-2 1/2"	2-2 1/2"	
450	2-4/0	2-2	2-2 1/2"	2-2 1/2"	2-3"	
500	2-250	2-2	2-3"	2-3"	2-3"	
600	2-350	2-1	2-3"	2-3 1/2"	2-3 1/2"	
700	2-500	2-1/0	2-3 1/2"	2-4"	2-4"	
800	3-300	3-1/0	3-3"	3-3 1/2"	3-3 1/2"	
1000	3-400	3-2/0	3-3"	3-3 1/2"	3-4"	
1200	4-350	4-3/0	4-3"	4-3 1/2"	4-3 1/2"	
1600	5-400	5-4/0	5-3"	5-3 1/2"	5-4"	
2000	6-400	6-250	6-3"	6-3 1/2"	6-4"	

FEEDER & BRANCH CIRCUIT SIZING SCHEDULE - GENERAL PURPOSE

(NOTES 1 & 2)

OVERCURRENT DEVICE RATING (AMPERES)	WIRE SIZE - AWG OR KCMIL		CONDUIT SIZE			NOTE
	PHASE & NEUTRAL	E.G.	2 WIRE	3 WIRE	4 WIRE	
15-20	12	12	3/4"	3/4"	3/4"	
25-30	10	10	3/4"	3/4"	3/4"	
35-40	8	10	3/4"	3/4"	3/4"	
45-50	8(6)	10	3/4"	3/4"	3/4"(1")	
60	6(4)	10	3/4"(1")	3/4"(1")	1"(1 1/4")	
70	6(4)	8	3/4"(1")	3/4"(1")	1"(1 1/4")	
80-90	4(2)	8	1"	1"(1 1/4")	1 1/4"	
100	3(2)	8	1"(1 1/4")	1 1/4"	1 1/4"	
110	2(1)	6	1 1/4"	1 1/4"(1 1/2")	1 1/4"(1 1/2")	
125	1(1/0)	6	1 1/4"	1 1/2"	1 1/2"(2")	
150	1/0	6	1 1/4"	1 1/2"	2"	
175	2/0	6	1 1/2"	2"	2"	
200	3/0	6	1 1/2"	2"	2"	
225	4/0	4	2"	2"	2 1/2"	
250	250	4	2"	2 1/2"	2 1/2"	
300	350	4	2 1/2"	3"	3"	
350	500	3	3"	3"	3 1/2"	
400	2-3/0	2-3	2-2"	2-2"	2-2"	
450	2-4/0	2-2	2-2"	2-2"	2-2 1/2"	
500	2-250	2-2	2-2"	2-2 1/2"	2-2 1/2"	
600	2-350	2-1	2-2 1/2"	2-3"	2-3"	
700	2-500	2-1/0	2-3"	2-3"	2-3 1/2"	
800	3-300	3-1/0	3-2 1/2"	3-3"	3-3"	
1000	3-400	3-2/0	3-2 1/2"	3-3"	3-3"	
1200	4-350	4-3/0	4-2 1/2"	4-3"	4-3"	
1600	5-400	5-4/0	5-2 1/2"	5-3"	5-3"	
2000	6-400	6-250	6-2 1/2"	6-3"	6-3"	

CIRCUIT SIZING SCHEDULES NOTES:

1. BASED ON THHN/THWN, 90°., 600V., INSULATED, COPPER WIRE APPLIED AT 75°FOR TERMINATIONS RATED AT 60°C/75°C AND 75°C. FOR TERMINATIONS RATED AT 60°C PROVIDE WIRE AND CONDUIT SIZES INDICATED IN PARENTHESIS.
2. BASED ON WIRE OUTSIDE DIAMETERS AND RIGID METALLIC CONDUIT INSIDE DIAMETERS AS PROVIDED IN THE NEC. DO NOT REDUCE CONDUIT SIZE FOR NON-RIGID METALLIC APPLICATION. REFER TO NEC FOR CONDUIT TYPES MORE RESTRICTIVE THAN RIGID METALLIC.
3. BASED ON MOTOR FULL LOAD AMPERES AS PROVIDED BY THE NEC.
4. BASED ON MOTOR RUNNING OVERLOAD PROTECTION PROVIDED BY THERMAL OVERLOAD RELAYS.
5. MOTOR STARTING TYPE BASED ON 460V., 3 PHASE, FULL VOLTAGE NON-REVERSING EXCEPT FOR MOTORS SIZED 75HP OR GREATER WHICH ARE BASED ON 460V., 3 PHASE, PART WINDING REDUCED VOLTAGE STARTING.
6. TRANSFORMER CIRCUITS BASED ON 480V TO 208/120V., 3 PHASE, 4 WIRE,DRY TYPE.
7. PROVIDE THREE PHASE WIRES AND ONE DOUBLE AMPACITY NEUTRAL FOR 110 AMPACITY CIRCUITS AND LESS. PROVIDE THREE PHASE WIRES AND TWO NEUTRAL WIRES, SIZES AS INDICATED FOR 125 AMPACITY CIRCUITS AND GREATER.

480V., THREE PHASE CIRCUIT LENGTH TABLE

BREAKER AMPACITY (AMPS)	MAX. CIRCUIT LOAD (AMPS)	MAXIMUM LENGTH IN FEET																							
		NO.12	NO.10	NO.8	NO.6	NO.4	NO.2	NO.1	1/0	2/0	3/0	4/0	250	350	500	2-3/0	2-4/0	2-250	2-350	2-500	3-300	3-400	4-350	5-400	6-400	6-500
20	16	253	403	642	1019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	24	-	269	428	679	1079	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	32	-	-	321	509	809	1293	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	40	-	-	-	408	648	1034	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60	48	-	-	-	-	540	862	1083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70	56	-	-	-	-	-	739	928	1169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
80	64	-	-	-	-	-	646	812	1023	1286	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90	72	-	-	-	-	-	574	722	909	1143	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	80	-	-	-	-	-	-	650	818	1029	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
125	100	-	-	-	-	-	-	-	655	823	1043	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150	120	-	-	-	-	-	-	-	546	689	869	1107	-	-	-	-	-	-	-	-	-	-	-	-	-
175	140	-	-	-	-	-	-	-	-	588	745	949	1110	-	-	-	-	-	-	-	-	-	-	-	-
200	160	-	-	-	-	-	-	-	-	-	652	830	971	1360	-	-	-	-	-	-	-	-	-	-	-
225	180	-	-	-	-	-	-	-	-	-	-	738	863	1209	1743	-	-	-	-	-	-	-	-	-	-
250	200	-	-	-	-	-	-	-	-	-	-	-	777	1088	1569	1043	-	-	-	-	-	-	-	-	-
300	240	-	-	-	-	-	-	-	-	-	-	-	-	907	1307	869	1107	-	-	-	-	-	-	-	-
350	280	-	-	-	-	-	-	-	-	-	-	-	-	-	1120	745	949	1110	-	-	-	-	-	-	-
400	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	652	830	971	1360	-	-	-	-	-	-
450	360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	738	863	1209	-	-	-	-	-	-
500	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	777	1088	1569	-	-	-	-	-
600	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	907	1307	1165	-	-	-	-
700	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1120	999	1346	-	-	-
800	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	874	1177	1360	-	-
1000	800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	942	1088	1569	-
1200	960	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	907	1307	-
1600	1200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	980	1226	1307
1800	1440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1089	1177
2000	1600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	980	1137

120V. SINGLE PHASE CIRCUIT LENGTH TABLE

BREAKER AMPACITY (AMPS)	MAX. CIRCUIT CURRENT (AMPS)	MAX. CIRCUIT LOAD (VA)	MAXIMUM LENGTH IN FEET				
			NO.12	NO.10	NO.8	NO.6	NO.4
20	4	480	220	349	556	882	-
	8	960	110	174	278	441	701
	12	1440	73	116	185	294	467
	16	1920	55	87	139	221	350
30	24	2880	-	58	93	147	234
40	32	3840	-	-	70	110	175
50	40	4800	-	-	-	88	140
60	48	5760	-	-	-	-	117

208V. SINGLE PHASE CIRCUIT LENGTH TABLE

BREAKER AMPACITY (AMPS)	MAX. CIRCUIT CURRENT (AMPS)	MAX. CIRCUIT LOAD (VA)	MAXIMUM LENGTH IN FEET				
			NO.12	NO.10	NO.8	NO.6	NO.4
20	4	832	380	605	964	-	-
	8	1664	190	302	482	765	-
	12	2496	127	202	321	510	810
	16	3328	95	151	241	382	607
30	24	4992	-	101	161	255	405
40	32	6656	-	-	121	191	304
50	40	8320	-	-	-	153	243
60	48	9984	-	-	-	-	202

208V. THREE PHASE CIRCUIT LENGTH TABLE

BREAKER AMPACITY (AMPS)	MAX. CIRCUIT CURRENT (AMPS)	MAX. CIRCUIT LOAD (VA)	MAXIMUM LENGTH IN FEET				
			NO.12	NO.10	NO.8	NO.6	NO.4
20	4	1440	439	698	1113	-	-
	8	2880	220	349	557	883	-
	12	4320	127	233	371	589	935
	16	5760	95	175	278	442	701
30	24	8640	-	116	186	294	468
40	32	11520	-	-	139	221	351
50	40	14400	-	-	-	177	281
60	48	17280	-	-	-	-	234

277V. SINGLE PHASE CIRCUIT LENGTH TABLE

BREAKER AMPACITY (AMPS)	MAXIMUM LENGTH IN FEET		
	NO.12	NO.10	
20	200	300	

CIRCUIT MAXIMUM DISTANCE TABLE NOTES:

CIRCUIT MAXIMUM DISTANCE IS BASED ON NEC CHAPTER 9, TABLE 8 CONDUCTOR PROPERTIES FOR COATED COPPER CONDUCTORS AT 75 DEGREES CELSIUS.

TRANSFORMER CIRCUIT SIZING SCHEDULE - GENERAL PURPOSE TYPE

(NOTE 6)

TRANSF. KVA	PRIMARY CIRCUIT (480V.)		SECONDARY CIRCUIT (208/120V.)		
	SWITCH/FUSE OR CIRCUIT BREAKER	PRIMARY FEEDER	SWITCH/FUSE OR CIRCUIT BREAKER	SYSTEM/EQUIPMENT BONDING JUMPER (GROUND WIRE)	SECONDARY FEEDER
9	30/20A.	20A., 3W.	30/30A.	#8	30A., 4W.
15	30/25A.	25A., 3W.	60/60A.	#8	60A., 4W.
30	60/45A.	45A., 3W.	100/100A.	#8	100A., 4W.
45	100/70A.	70A., 3W.	200/175A.	#4	175A., 4W.
75	200/125A.	125A., 3W.	400/300A.	#2	300A., 4W.
112 1/2	200/175A.	175A., 3W.	400/400A.	#1/0	400A., 4W.
150	400/225A.	225A., 3W.	600/600A.	#2/0	600A., 4W.
225	400/350A.	350A., 3W.	800/800A.	#3/0	800A., 4W.
300	600/500A.	500A., 3W.	1200/1000A.	#3/0	1000A., 4W.

ELGIN SPORTS COMPLEX EXPANSION

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VOLUME 1 OF 2

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ISSUED FOR	REV	DATE
ISSUE FOR BID	1	04/11/2024

SEALS AND SIGNATURES

KEY PLAN

DRAWING TITLE
ELECTRICAL SCHEDULES

SCALE: N.T.S.

SCALE

PROJECT NUMBER
14106

DRAWING NUMBER
E-001

COMcheck Software Version COMcheckWeb

Exterior Lighting Compliance Certificate

Project Information

Energy Code:	2021 IECC
Project Title:	Elgin Sports Complex Expansion
Project Type:	New Construction
Exterior Lighting Zone	2 (Residential mixed use area (LZ2))

Construction Site:
709 Sports Way
Elgin, Illinois 60123

Owner/Agent:
City of Elgin
150 Dexter Court
Elgin, Illinois 60120
847-931-6001

Designer/Contractor:
Sean Stryker
SmithGroup
35 E. Wacker Drive Suite 900
Chicago, Illinois 60601
312-641-0770

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts /	D Tradable Wattage	E Allowed Watts (B X C)
Loop roadway (Driveway)	86047 ft2	0.04	Yes	3442
Core area parking (Parking area)	96182 ft2	0.04	Yes	3847
Core area around food trucks, flag poles, and shelter (Plaza area)	26287 ft2	0.1	Yes	2629
Core area landscaping (Landscaping)	36382 ft2	0.04	Yes	1455
Core area walkways (Walkway >= 10 feet wide)	16174 ft2	0.1	Yes	1617
		Total Tradable Watts (a) =		12990
		Total Allowed Watts =		12990
		Total Allowed Supplemental Watts (b) =		400

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
Loop roadway (Driveway, 86047 ft2): Tradable Wattage				
LED: P1: LED Other Fixture Unit 95W:	1	34	102	3468
Core area parking (Parking area, 96182 ft2): Tradable Wattage				
LED: P1: LED Other Fixture Unit 95W:	1	11	102	1122
LED: P2: LED Other Fixture Unit 95W:	1	6	408	2448
Core area around food trucks, flag poles, and shelter (Plaza area, 26287 ft2): Tradable Wattage				
LED: P6: LED Other Fixture Unit 95W:	1	6	92	552
Core area landscaping (Landscaping, 36382 ft2): Tradable Wattage				
LED: LED Other Fixture Unit 95W:	1	14	93	1302
Core area walkways (Walkway >= 10 feet wide, 16174 ft2): Tradable Wattage				
LED: P7: LED Other Fixture Unit 40W:	1	2	40	80
			Total Tradable Proposed Watts =	8972

Exterior Lighting PASSES: Design 33% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2021 IECC requirements in COM*check* Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Sean Stryker		03/27/2024
Name - Title	Signature	Date

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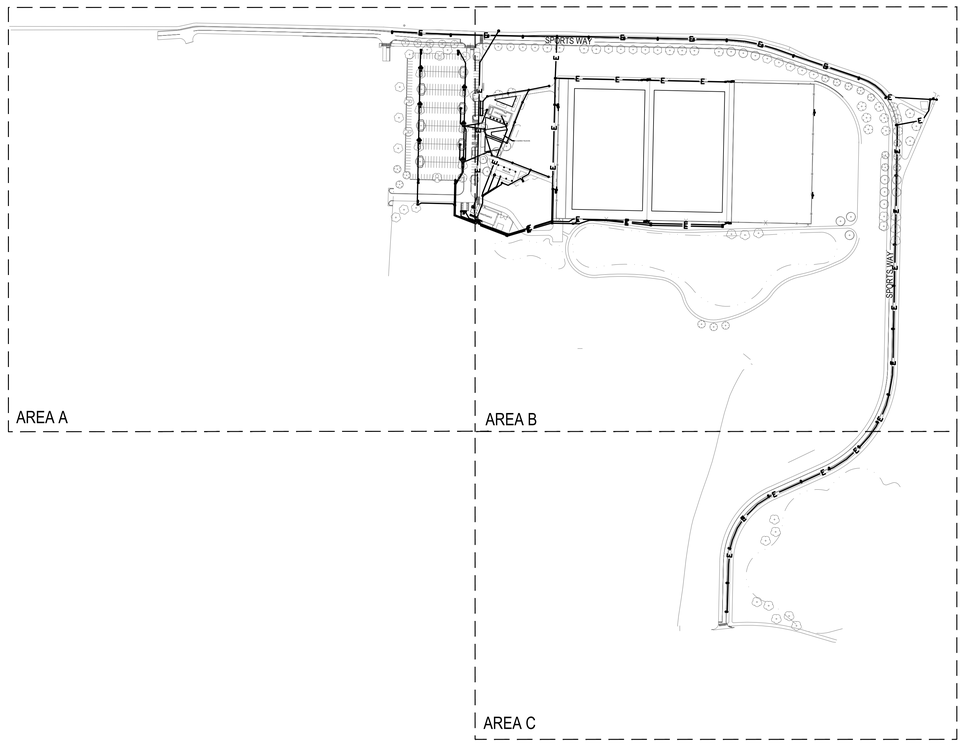
KEY PLAN

DRAWING TITLE
ENERGY CODE COMPLIANCE FORMS

SCALE: N.T.S.

SCALE
PROJECT NUMBER 14106

DRAWING NUMBER E-002



SHEET NOTES

1. SEE DRAWING E-000 FOR ABBREVIATIONS, SYMBOLS, AND GENERAL NOTES.
2. VOLTAGE DROP SHALL BE LIMITED TO LESS THAN 3% FOR ALL BRANCH CIRCUITS AND 2% FOR ALL FEEDERS.
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LEGEND

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- SETBACK LINE
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KEYED NOTES

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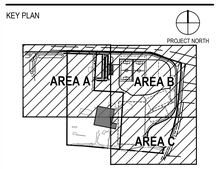
KEY PLAN



DRAWING TITLE

ELECTRICAL PLAN - OVERALL

0' 100' 200' 400'

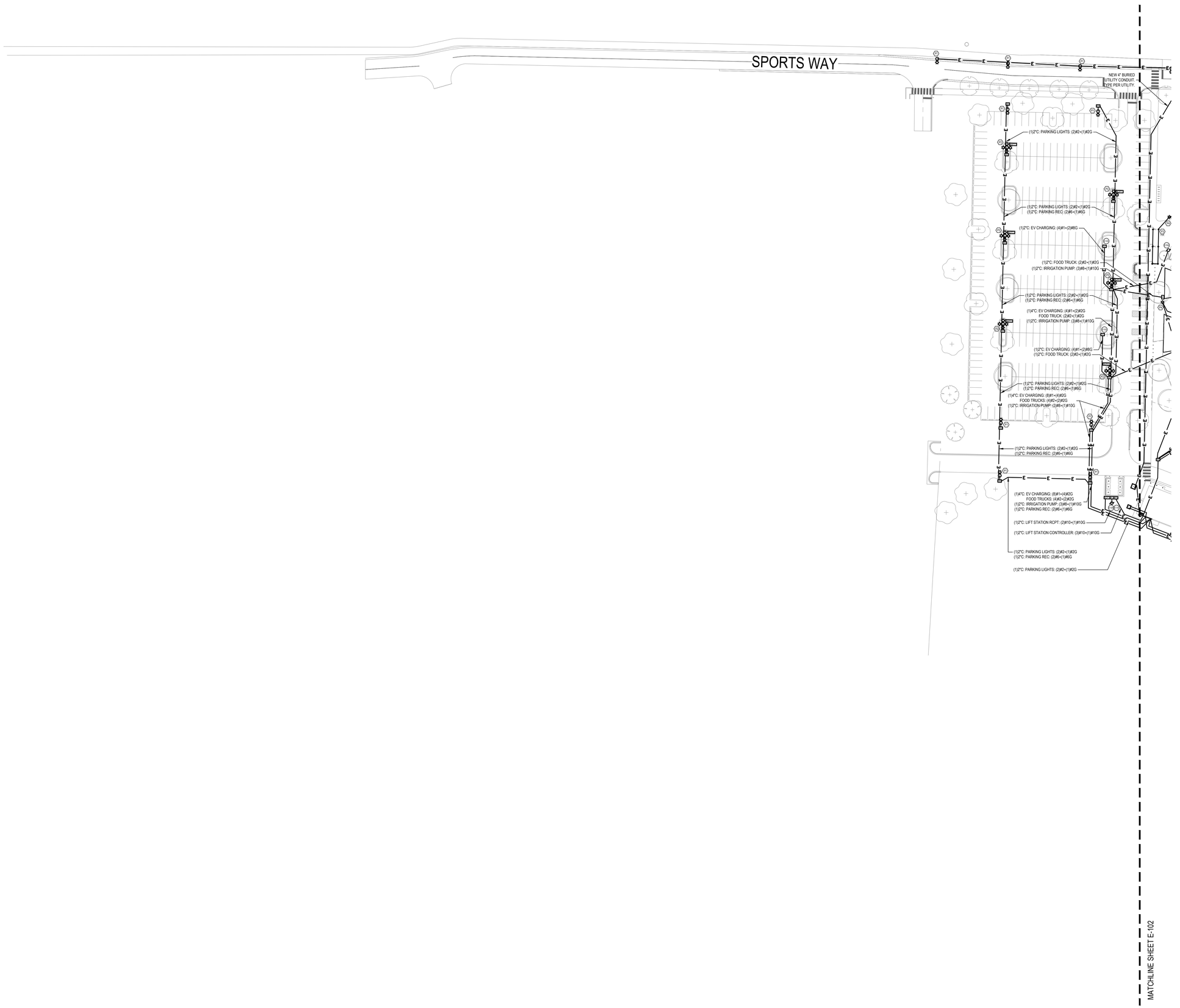
SCALE: 1" = 200'

SCALE

PROJECT NUMBER 14106

DRAWING NUMBER E-100

CALL J.U.L.I.E. 1-800-892-0123
48 Hours (2 working days) Before You Dig.



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KEYED NOTES

E103 ELECTRIC VEHICLE CHARGING STATION. PROVIDE CHARGEPOINT CP6000 WITH 80A, DUAL PORT, PEDESTAL MOUNT, 23FT CABLE. COORDINATE WITH EV CHARGER VENDOR FOR INSTALLATION REQUIREMENTS.

E104 UNDERGROUND IRRIGATION PUMP ASSEMBLY PROVIDED/INSTALLED BY OTHERS WITH INTEGRAL DISCONNECT. PROVIDE (2)2" CONTROLS CONDUITS TO PUMP. (1) FED FROM MECHANICAL ROOM WITHIN MAINTENANCE BUILDING AND (1) FED FROM MECH/ELEC ROOM 102 WITHIN CONCESSIONS BUILDING. COORDINATE FINAL LOCATION OF ASSEMBLY WITH IRRIGATION SYSTEM VENDOR.

E106 REFER TO BUILDING DRAWING PACKAGE FOR ELECTRICAL AND TELECOM PATHWAY TERMINATIONS WITHIN MAINTENANCE AND CONCESSIONS BUILDING.

E108 INCOMING TELECOMMUNICATIONS FIBER SERVICE TO SITE. PROVIDE 4" HDPE TUBING WITH DIRECTIONAL BORING UNDER BIKE PATH AND SPORTS WAY AS REQUIRED. PROVIDE HANDHOLES AS INDICATED AND SPACED PER CITY OF ELGIN MINIMUM REQUIREMENTS. EXTEND AND CONNECT TO EXISTING FIBER HANDHOLE AT NORTHEAST CORNER OF EXISTING ELGIN SPORTS COMPLEX SOCCER FIELD #8 (NEAR PARKING LOT) AND COORDINATE ROUTING WITH EXISTING UTILITIES. INCLUDE APPROXIMATELY AN ADDITIONAL 300FT OF RACEWAY AND 45DEG BEND FOR ROUTING BETWEEN NEW AND EXISTING HANDHOLE. REFER TO DETAIL 1 ON THIS SHEET FOR REFERENCE OF LOCATION AND ROUTING.

E109 LIFT STATION PUMP ASSEMBLY PROVIDED AND INSTALLED BY OTHERS. LOCAL CONTROL PANEL WITH INTEGRAL DISCONNECT PROVIDED BY VENDOR SHALL BE SURFACE SURFACE-MOUNTED TO GALVANIZED STEEL STRUT SUPPORTS ALONG OUTER WALL OF TRASH ENCLOSURE BY CONTRACTOR. CONTRACTOR SHALL PROVIDE AND INSTALL CONDUIT AND WIRING TO CONTROL PANEL. WIRING FROM CONTROL PANEL TO PUMPS SHALL BE PROVIDED BY VENDOR, AND CONTRACTOR SHALL PROVIDE CONDUIT AND INSTALL CONDUIT AND WIRING TO PUMPS. PROVIDE SERVICE RECEPTACLE WITH LOCKABLE WHILE IN USE COVER FOR LIFT STATION MOUNTED DIRECTLY ADJACENT TO CONTROL PANEL. COORDINATE ALL WORK WITH CIVIL DRAWINGS AND LIFT STATION VENDOR.

E110 PROVIDE GENERATOR DOCKING STATION MANUAL TRANSFER SWITCH FOR SEWAGE LIFT STATION. SWITCH TO BE PROVIDED WITH TEMPORARY GENERATOR BREAKER TO ALLOW TRANSFER BETWEEN PERMANENT AND TEMPORARY SOURCE. SWITCH PROVIDED WITH FACTORY INSTALLED PHASE ROTATION MONITOR, TAMPER-RESISTANT RAKE SYSTEM, 16 SERIES CAMLOK CONNECTIONS, NEMA 3R ENCLOSURE, AND NEC 702.12C COMPLIANT DOOR MOUNT SWITCH TO GALVANIZED STEEL STRUT SUPPORT SYSTEM WITH CONCRETE FOOTINGS AND MOUNTED TIGHT TO THE BACK OF THE TRASH ENCLOSURE. B.O.D.: TRYSTAR: TMTS-3

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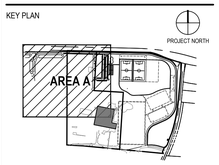
SEALS AND SIGNATURES

KEY PLAN



DRAWING TITLE
ELECTRICAL PLAN - AREA A

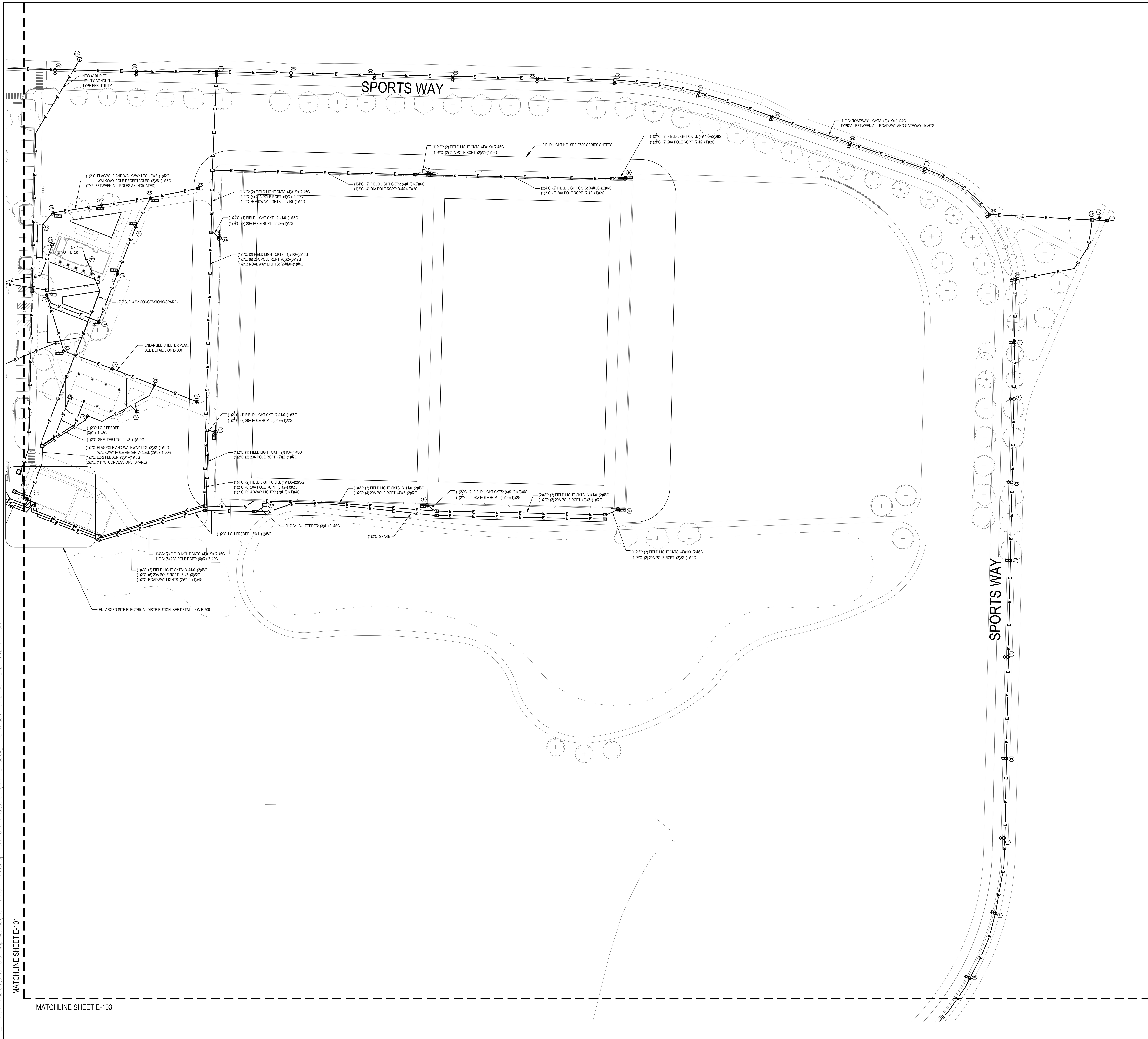
0' 25' 50' 100'
SCALE: 1" = 50'

SCALE 14106

PROJECT NUMBER

E-101

DRAWING NUMBER



SHEET NOTES

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KEYED NOTES

E101 PROVIDE 100-AMP, 120/240V, SINGLE PHASE LOAD CENTER MOUNTED TO STRUCTURE POST AT 42" AFG. COORDINATE INSTALLATION WITH VENDOR PRIOR TO PURCHASE TO ALLOW EQUIPMENT TO BE MOUNTED DIRECTLY ONTO POST WITHOUT ADDITIONAL STRAPPING. CONDUIT TO BE RUN TIGHT TO POST TO REDUCE VISIBILITY, REDUCE TRIP POTENTIAL, AND BE PROVIDED IN A FINISH TO MATCH STRUCTURE.

E102 EXISTING OVERHEAD 12KV UTILITY POWER POLE.

E104 UNDERGROUND IRRIGATION PUMP ASSEMBLY PROVIDED/INSTALLED BY OTHERS WITH INTEGRAL DISCONNECT. PROVIDE (2)2" CONTROLS CONDUITS TO PUMP, (1) FED FROM MECHANICAL ROOM WITHIN MAINTENANCE BUILDING AND (1) FED FROM MECH/ELEC ROOM 102 WITHIN CONCESSIONS BUILDING. COORDINATE FINAL LOCATION OF ASSEMBLY WITH IRRIGATION SYSTEM VENDOR.

E106 REFER TO BUILDING DRAWING PACKAGE FOR ELECTRICAL AND TELECOM PATHWAY TERMINATIONS WITHIN MAINTENANCE AND CONCESSIONS BUILDING.

E107 CONTRACTOR TO INTERCEPT EXISTING UNDERGROUND PATHWAY AT NEAREST AVAILABLE GROUND LOCATION AND PROVIDE NEW HANDHOLE. STONE STRUCTURES ARE EXISTING TO REMAIN WITH EXISTING TO REMAIN INTEGRATED PATHWAYS. PROVIDE ALL NEW WIRING TO NEW GATEWAY FIXTURES. PROVIDE NEW POLE BRACKET CONNECTION FOR NEW FIXTURE INSTALLATION TO EXISTING POLE/HOLE WITHIN STONE. BRACKET CONNECTION PROVIDED MUST MEET LIGHT FIXTURE MANUFACTURER REQUIREMENTS.

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SEALS AND SIGNATURES

KEY PLAN

PROJECT NORTH

AREA B

DRAWING TITLE
ELECTRICAL PLAN - AREA B

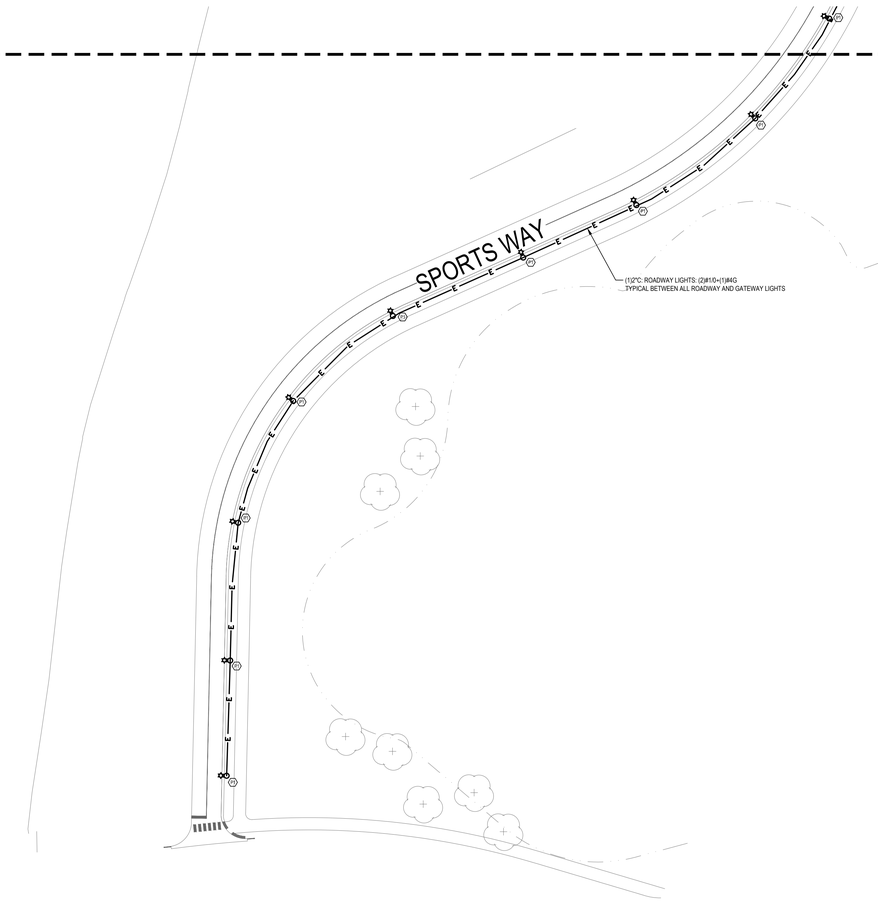
0' 25' 50' 100'
SCALE: 1" = 50'

SCALE

14106
PROJECT NUMBER

E-102
DRAWING NUMBER

MATCHLINE SHEET E-102



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18. PROVIDE DEDICATED CONDUIT PER LIGHTING CIRCUIT. REFER TO PANEL AND CONTACTOR SCHEDULES FOR MORE INFORMATION.

LEGEND

- PROPERTY LINE
- SETBACK LINE
- E — UNDERGROUND ELECTRICAL CONDUIT
- T — UNDERGROUND TELECOM CONDUIT
- HH# — ELECTRIC HAND HOLE
- RCPT# — RECEPTACLE
- UTILITY POLE
- FIELD LIGHT POLE
- ROADWAY/PARKING LIGHT POLE
- PEDESTRIAN/GATEWAY LIGHT POLE

KEYED NOTES

CALL J.U.L.I.E. 1-800-892-0123
48 Hours (2 working days) Before You Dig.

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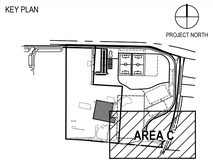
ISSUED FOR	REV	DATE
ISSUE FOR BID	1	04/11/2024

SEALS AND SIGNATURES

KEY PLAN



DRAWING TITLE
ELECTRICAL PLAN - AREA C

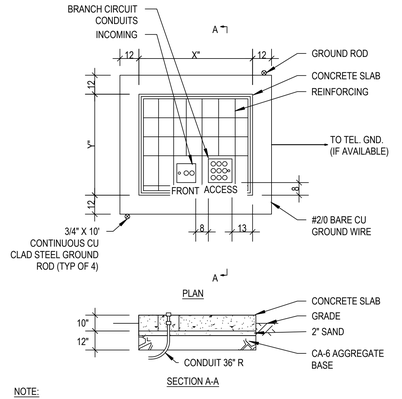
0' 20' 50' 100'
SCALE: 1" = 50'

SCALE 14106

PROJECT NUMBER

E-103

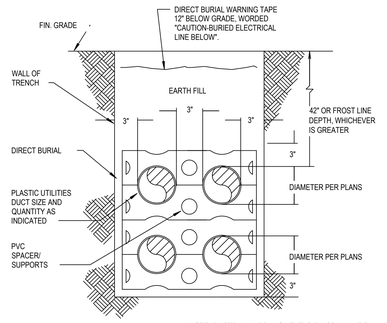
DRAWING NUMBER



NOTE:
COORDINATE PAD DIMENSIONS AND PENETRATION LOCATIONS WITH APPROVED EQUIPMENT SHOP DRAWINGS.

7 PAD MOUNTED DISTRIBUTION EQUIPMENT DETAIL

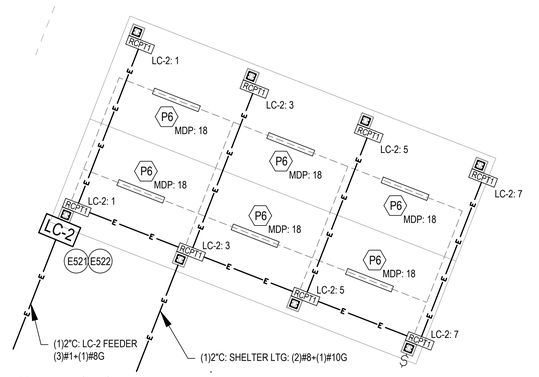
SCALE: NTS



NOTE: DUCTBANK ARRANGMENT IS DIAGRAMMATIC. RACEWAY ARRANGEMENT SHALL BE PER QUANTITY ON PLANS WITH SPACING AS INDICATED.

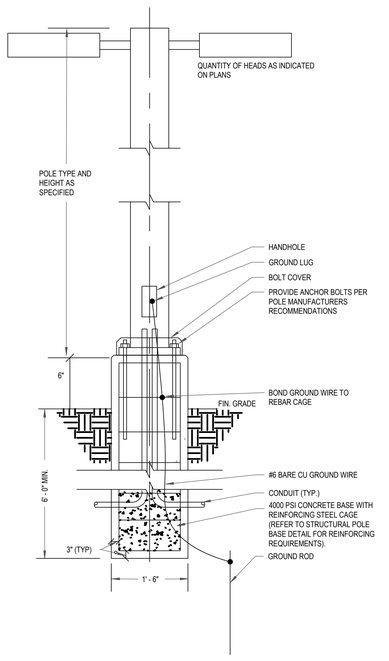
6 SITE DUCT BANK DETAIL

SCALE: NTS



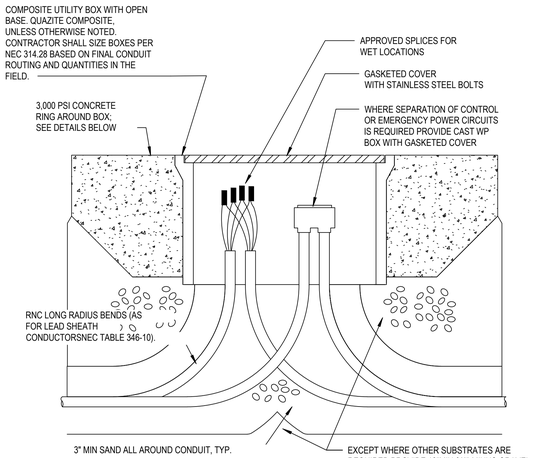
5 ENLARGED SHELTER PLAN

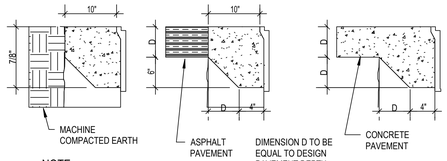
SCALE: 1" = 10'



4 PARKING/PEDESTRIAN LIGHTING STRUCTURAL POLE DETAIL

SCALE: NTS

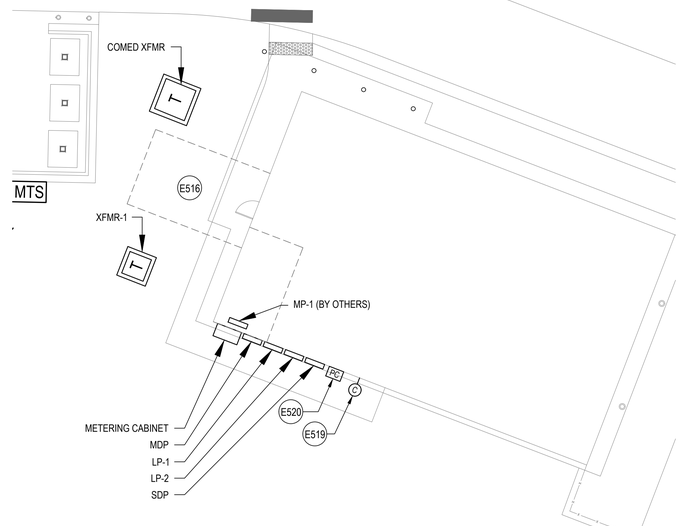




NOTE:
SIZE AS REQUIRED. PROVIDE EXTRA DEPTH BY STACKING WHERE REQUIRED WHERE REQUIRED BY CODE. SEE GENERAL NOTES ON SHEET E001.

3 HAND HOLE FINISH GRADE

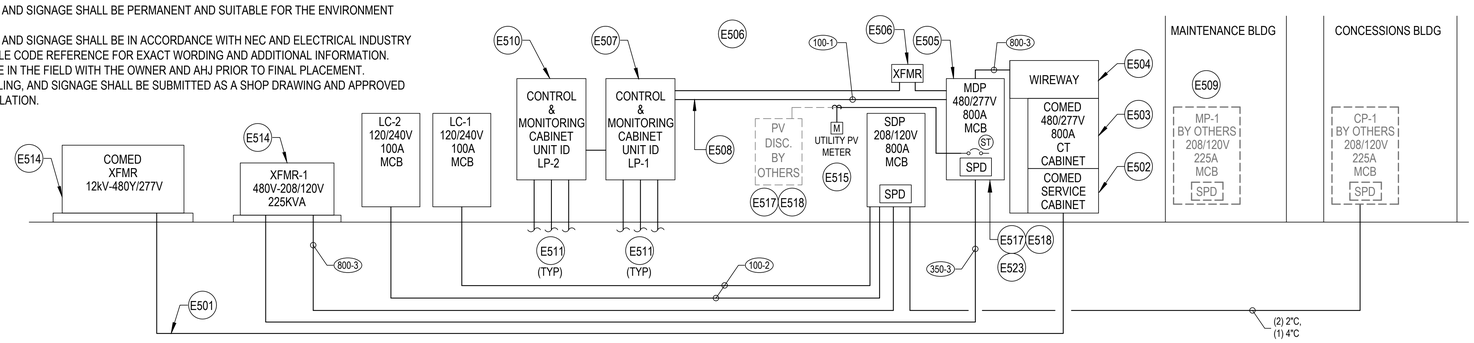
SCALE: NTS



2 ENLARGED SITE ELECTRICAL DISTRIBUTION PLAN

SCALE: 1" = 10'

NOTES:
1. ALL IDENTIFICATION, MARKINGS, LABELING, AND SIGNAGE SHALL BE PERMANENT AND SUITABLE FOR THE ENVIRONMENT WHERE INSTALLED.
2. ALL IDENTIFICATION, MARKINGS, LABELING, AND SIGNAGE SHALL BE IN ACCORDANCE WITH NEC AND ELECTRICAL INDUSTRY STANDARD PRACTICE. REFER TO APPLICABLE CODE REFERENCE FOR EXACT WORDING AND ADDITIONAL INFORMATION.
3. COORDINATE EXACT LOCATION OF SIGNAGE IN THE FIELD WITH THE OWNER AND AHJ PRIOR TO FINAL PLACEMENT.
4. ALL FINAL IDENTIFICATION, MARKING, LABELING, AND SIGNAGE SHALL BE SUBMITTED AS A SHOP DRAWING AND APPROVED BY ARCHITECT/ENGINEER PRIOR TO INSTALLATION.



1 ELECTRICAL ONE-LINE/RISER DIAGRAM

SCALE: NTS

SHEET NOTES

1. SEE DRAWING E-000 FOR ABBREVIATIONS, SYMBOLS, AND GENERAL NOTES.
2. VOLTAGE DROP SHALL BE LIMITED TO LESS THAN 3% FOR ALL BRANCH CIRCUITS AND 2% FOR ALL FEEDERS.
3. COORDINATE WITH LOCAL UTILITY FOR ALL SITE SERVICE REQUIREMENTS.
4. CONTACT LOCAL UTILITY TO IDENTIFY ALL EXISTING UNDERGROUND UTILITIES.
5. ALL FIELD LIGHTING EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
6. ALL FIELD CONDUITS SHALL BE SCHEDULE 80 PVC CONDUIT. CONTRACTOR SHALL PROVIDE HANDHOLES AS REQUIRED TO PERMIT PULLING OF CABLES WITHOUT DAMAGING THE CONDUCTOR INSULATION.
7. ALL HOMERUNS SHALL BE RUN ALONG THE PERIMETER OF THE PLAYING FIELD. FINAL CONDUIT ROUTING SHALL BE FIELD VERIFIED WITH OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
8. CONTRACTOR SHALL PROVIDE CONCRETE BASE TO MOUNT ALL SERVICE EQUIPMENT AND ELECTRICAL EQUIPMENT.
9. PROVIDE ALL NECESSARY MOUNTING HARDWARE TO PROPERLY SUPPORT ALL SERVICE EQUIPMENT.
10. ALL ELECTRICAL SERVICE EQUIPMENT SHALL BE READILY ACCESSIBLE, AND HAVE A CLEAN AND DRY LOCATION. PROVIDE CLEAR WORKING SPACE AROUND EQUIPMENT.
11. COLOR CODE AND IDENTIFY ALL WIRES.
12. PANELBOARDS SHALL BE PROVIDED WITH LOCKING KEY IN NEMA 3R ENCLOSURE.
13. ALL CONNECTION TO MUSCO EQUIPMENT SHALL BE IN ACCORDANCE WITH MUSCO DRAWINGS. CONTACT: BEN TJADEN, TEL: (563) 999-4146.
14. THE CONTRACTOR SHALL RESTORE ALL AREAS AND SYSTEMS DISTURBED BY NEW WORK.
15. THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND CERTIFICATES OF INSPECTION INCLUDING THE COST OF SAME IN CONTRACT.
16. ALL MATERIALS FURNISHED FOR THIS PROJECT SHALL BE NEW AND SHALL BE LISTED BY UL.
17. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC, AND ALL OTHER RULES AND REGULATIONS OF THE LOCAL ELECTRICAL CODE.
18. PROVIDE DEDICATED CONDUIT PER LIGHTING CIRCUIT. REFER TO PANEL AND CONTACTOR SCHEDULES FOR MORE INFORMATION.

KEYED NOTES

- E501 12KV 3PH 3W UNDERGROUND INCOMING ELECTRICAL SERVICE. PROVIDE (1) 4" SCHEDULE 80 PVC CONCRETE ENCASED. MINIMUM 36" BELOW FINAL GRADE TO EQUIPMENT PAD. CONTRACTOR SHALL BUILD PAD, ASSOCIATED GROUND, BOLLARDS (AS REQUIRED BY COMED). ALL NECESSARY PRIMARY AND SECONDARY SWEEPINGS IN ACCORDANCE WITH ALL APPLICABLE COMED STANDARDS AND REQUIREMENTS. CONTRACTOR SHALL FULLY COORDINATE SERVICE WITH COMED PRIOR TO COMMENCEMENT OF WORK.
- E502 PROVIDE SIZE AS REQUIRED WITH PROVISIONS FOR COMED SEALS.
- E503 PROVIDE NEW 480/277V 3PH 4W C.T. CABINET IN NEMA 3R ENCLOSURE WITH REMOTE METER. PROVIDE 1-1/2" CONDUIT TO REMOTE METER. PROVIDE METER SOCKET AND COORDINATE METER SOCKET LOCATION WITH PEPCO PRIOR TO ROUGH-IN. METER SHALL BE MOUNTED AT 36" ABOVE FINISHED GRADE.
- E504 PROVIDE MINIMUM 12" X 12" X 24" NEMA 3R WIREWAY.
- E505 PROVIDE GROUNDING AS PER ARTICLE 250 OF THE NEC. AS MINIMUM PROVIDE #2/0 COPPER TO TWO 5/8"X10' GROUND RODS.
- E506 2KVA 1PH DRY TYPE TRANSFORMER IN NEMA 3R ENCLOSURE. 277V PRIMARY, 120V SECONDARY. GROUND TRANSFORMER WITH #8 AWG COPPER TO MAIN SYSTEM GROUND. CONNECT CONTROL AND MONITORING CABINET WITH 2#10 + 1#10 INSULATED GROUND IN A 3/4" CONDUIT. COORDINATE FINAL TRANSFORMER REQUIREMENTS WITH LIGHTING VENDOR.
- E507 CONTROL AND MONITORING CABINET PROVIDED BY LIGHTING VENDOR. PROVIDE WITH NEMA 3R ENCLOSURE.
- E508 PROVIDE AS NEEDED MINIMUM 1-1/2" DIAMETER EMT CONDUITS TO FEED (6) 100AMP, 2-POLE, 600V CONTACTORS AND (16) 20AMP, 1-POLE, 600V CONTACTORS FROM MDP TO CONTROL & MONITORING CABINETS. NO MORE THAN (6) CURRENT CARRYING CONDUCTORS SHOULD RUN THROUGH EACH CONDUIT.
- E509 OVERHEAD CONNECTION FROM SDP TO MP-1 BY OTHERS.
- E510 ADDITIONAL CONTROL AND MONITORING CABINET (IF NEEDED). COORDINATE WITH LIGHTING VENDOR EXACT QUANTITY OF CONTROL PANELS NEEDED. PROVIDE WITH NEMA 3R ENCLOSURE.
- E511 UNDERGROUND BRANCH CIRCUITS TO NEW LIGHTING POLES LOCATED AT SOCCER FIELDS. REFER TO PLANS FOR SIZING AND QUANTITY OF BRANCH CIRCUIT WIRING.
- E512 2/0 GROUNDING ELECTRODE CONDUCTOR.
- E513 PROTECTIVE BOLLARD FOR ELECTRICAL ENCLOSURE. REFER TO CIVIL DRAWINGS FOR MORE INFORMATION.
- E514 PROVIDE PAD-MOUNTED TRANSFORMER WITH NEMA 3R ENCLOSURE.
- E515 PV MONITORING SYSTEM AND RAPID SHUTDOWN CONTROLLER TO BE PROVIDED BY OTHERS.
- E516 NO ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN THIS AREA PER UTILITY REQUIREMENTS.
- E517 MARKING REQUIRED FOR PV SYSTEM DISCONNECTING MEANS.
- E518 PLAQUE/DIRECTORY REQUIREMENT FOR IDENTIFICATION OF ALL FACILITY POWER SOURCES, INCLUDING PV AND UTILITY POWER SOURCES.
- E519 ASTRONOMIC 7-DAY/365 DAY 4-CIRCUIT ELECTRONIC CONTROL, 120-277 VAC, 4-SPST/2-DPST, OUTDOOR METAL ENCLOSURE
- E520 IRRIGATION SYSTEM VENDOR TO PROVIDE AND INSTALL IRRIGATION CONTROLLER ADJACENT TO SDP. CONTRACTOR SHALL PROVIDE CIRCUITING FROM SDP.
- E521 PROVIDE 100-AMP, 120/240V, SINGLE PHASE LOAD CENTER MOUNTED TO STRUCTURE POST AT 42" AFG. COORDINATE INSTALLATION WITH VENDOR PRIOR TO PURCHASE TO ALLOW EQUIPMENT TO BE MOUNTED DIRECTLY ONTO POST WITHOUT ADDITIONAL STRAPPING. CONDUIT TO BE RUN TIGHT TO POST TO REDUCE VISIBILITY, REDUCE TRIP POTENTIAL, AND BE PROVIDED IN A FINISH TO MATCH STRUCTURE.
- E522 PROVIDE CIRCUITING AS INDICATED ON PANEL SCHEDULE FROM LC-2 TO SHELTER. ALL CIRCUITS TO BE RUN UNDERGROUND IN 1" CONDUIT. PROVIDE 1" CONDUIT BETWEEN EACH POST, WITH RECEPTACLE AND LIGHT FIXTURE ROUGH-IN OPENINGS BY MANUFACTURER. LIGHTING CIRCUIT TO BE ROUTED WITHIN STRUCTURE. FIXTURES MOUNTED TO JUNCTION BOXES, AND LOCALIZED DIMMING OVERRIDE SWITCH TO BE PROVIDED IN NEMA 3R LOCKABLE ENCLOSURE AT 42" AFG. COORDINATE ALL PATHWAYS WITHIN STRUCTURE WITH SHELTER MANUFACTURERS REQUIREMENTS.
- E523 MARKING REQUIRED AT POINT OF INTERCONNECTION.

(X) FEEDER SCHEDULE

100-1	2#3 + 1#8 G, (1) 2" C
100-2	3#2 + 1#8 G (1) 2" C
350-3	3#500 + 1#3 G, (1) 4" C
800-3	(3) 4#300 + 1#1/0 G, (3) 4" C

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SEALS AND SIGNATURES

KEY PLAN

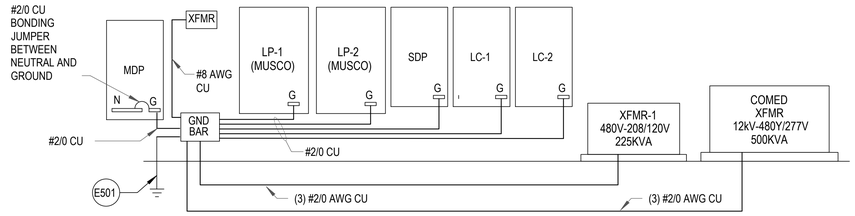
DRAWING TITLE
ELECTRICAL ONE-LINE DIAGRAM AND DETAILS

SCALE: N.T.S.

SCALE 14106

PROJECT NUMBER E-500

DRAWING NUMBER



2 ELECTRICAL GROUNDING DIAGRAM

SCALE: NTS

GENERAL NOTES - GROUNDING DETAIL:

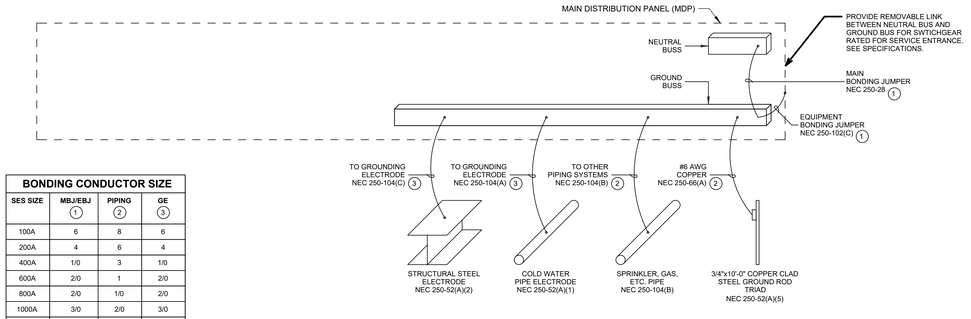
1. THE GROUNDING ELECTRODE CONDUCTOR CONNECTION POINT IS NOT NECESSARILY A PHYSICAL CONNECTION. IT IS PROVIDED TO ILLUSTRATE THE INTERCONNECTION OF THE GROUNDING ELECTRODE SYSTEM. IT COULD, FOR EXAMPLE, BE THE WATER PIPE.
2. NEC REFERENCES ARE FROM 2017 NATIONAL ELECTRICAL CODE.
3. BONDS SHALL BE COMPRESSION TYPE. INTERIOR BONDS MAY BE EXOTHERMIC. UNDERGROUND CONDITIONS ARE TO BE WELDED/EXOTHERMIC EXCEPT AT TEST WALLS AND AS OTHERWISE NOTED.
4. BOND SIZE SHALL MATCH CONDUCTORS SHOWN ON FEEDER SCHEDULE.
5. GROUND CONDUCTORS SHALL BE STRANDED COPPER INSULATED CABLE, UNLESS NOTED OTHERWISE.
6. SERVICE ENTRANCE GROUND ROD TRIAD LOCATION MUST BE COORDINATED WITH ALL SITE AND UNDERGROUND ELEMENTS PRIOR TO ROUTING AND INSTALLATION.
6. UTILITY VAULT GROUND ROD LOCATIONS MUST BE COORDINATED WITH ALL SITE AND UNDERGROUND ELEMENTS PRIOR TO ROUTING AND INSTALLATION. INSTALLATION MUST MEET ALL REQUIREMENTS OF DOMINION GROUNDING REQUIREMENTS

KEYED NOTES - GROUNDING DETAIL:

(1) SIZE PER TABLE 250-102(C)(1) UP TO 1100 KCMIL. SIZE TO 12.5% OF FEEDERS WHEN OVER 1100 KCMIL. MAIN BONDING JUMPER FOR SERVICES GREATER THAN 1000A, PROVIDED WITH SES ARE ACCEPTABLE.

(2) SIZE PER TABLE 250-122. ASSUMES MAIN DEVICE RATING IS EQUAL TO FEEDER SIZE.

(3) SIZE PER TABLE 250-66.



BONDING CONDUCTOR SIZE

SES SIZE	MBJ/EBJ (1)	PIPING (2)	GE (3)
100A	6	8	6
200A	4	6	4
400A	1/0	3	1/0
600A	2/0	1	2/0
800A	2/0	1/0	2/0
1000A	3/0	2/0	3/0
1200A	4/0	3/0	3/0
1600A	250 KCMIL	4/0	3/0
2000A	300 KCMIL	250 KCMIL	3/0
2500A	500 KCMIL	350 KCMIL	3/0
3000A	500 KCMIL	400 KCMIL	3/0
3200A	500 KCMIL	400 KCMIL	3/0
4000A	(2) 400 KCMIL	500 KCMIL	3/0
5000A	(2) 500 KCMIL	500 KCMIL	4/0

1 ELECTRICAL GROUNDING DETAIL

SCALE: NTS

SHEET NOTES

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4. CONTACT LOCAL UTILITY TO IDENTIFY ALL EXISTING UNDERGROUND UTILITIES.
5. ALL FIELD LIGHTING EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
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8. CONTRACTOR SHALL PROVIDE CONCRETE BASE TO MOUNT ALL SERVICE EQUIPMENT AND ELECTRICAL EQUIPMENT.
9. PROVIDE ALL NECESSARY MOUNTING HARDWARE TO PROPERLY SUPPORT ALL SERVICE EQUIPMENT.
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17. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC, AND ALL OTHER RULES AND REGULATIONS OF THE LOCAL ELECTRICAL CODE.
18. PROVIDE DEDICATED CONDUIT PER LIGHTING CIRCUIT. REFER TO PANEL AND CONTACTOR SCHEDULES FOR MORE INFORMATION.

KEYED NOTES

E501 2/0 GROUNDING ELECTRODE CONDUCTOR.

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SEALS AND SIGNATURES

KEY PLAN

DRAWING TITLE
ELECTRICAL GROUNDING ONE-LINE DIAGRAM AND DETAILS

SCALE: N.T.S.

SCALE

PROJECT NUMBER
14106

DRAWING NUMBER
E-501

PANELBOARD SCHEDULE

PANEL: MDP | EQUIP. GND. BUS: ■ | VOLTAGE: 480/277V, 3PH/4W
LOCATION: ENCLOSURE | ISOLATED GND BUS: ☐ | MAIN CIRCUIT BKR: 800 A
MOUNTING: SURFACE | NEUTRAL BUS: 100% ■ 200% ☐ | MLO: ☐
FED FROM: UTILITY | A.I.C.: 65,000 | SPD ■ | BUS RATING: 800 A

LOAD DESCRIPTION	BKR. AMPS	BKR. POLE	CKT. NO.	LOAD - V.A. A	LOAD - V.A. B	LOAD - V.A. C	CKT. NO.	BKR. POLE	BKR. AMPS	LOAD DESCRIPTION
FIELD LIGHTING POLES S1/S4	60	2	1	8,340 / 8,340			2	2	60	FIELD LIGHTING POLES S2/S3
			3		8,340 / 8,340		4			
FIELD LIGHTING POLES S4/S6	60	2	5			8,220 / 8,220	6	2	60	FIELD LIGHTING POLES S3/S5
			7	8,220 / 8,220			8			
FIELD LIGHTING POLES S6/S8 (ALT 1) **IF USING BASE BID, BREAKER SIZE SHALL BE 30 AMPS**	60	2	9		8,340 / 8,340		10	2	60	FIELD LIGHTING POLES S5/S7 (ALT 1) **IF USING BASE BID, BREAKER SIZE SHALL BE 30 AMPS**
			11			8,340 / 8,340	12			
SPARE	30	2	13	0 / 1,250			14	2	30	NORTH PARKING LTG S2/S3/S5 (ALT 4)
			15		0 / 1,250		16			
CORE AREA PARKING LTG	20	1	17			2,220 / 552	18	1	20	SHELTER LIGHTING
CORE AREA WALKWAY & FLAG LTG	20	1	19	1,508 / 500			20	1	20	SPD
LOOP ROADWAY AND GATEWAY LTG	20	1	21		3,378 / 3,049		22			
2KVA LTG CTRL TRANSFORMER	20	1	23			2000 / 3,049	24	3	20	LIFT STATION PUMP
SPACE (PV)			25	0 / 3,049			26			
SPACE			27		0 / 3,049		28			
			29			0 / 3,049	30	3	20	IRRIGATION PUMP ASSEMBLY
			31	0 / 3,049			32			
SPACE (PV)			33		61,462		34			
			35			59,422	36	6	350	XFMR-1
			37	64,922			38			
	TOTAL VA			107,398	105,548	103,412	TOTAL KVA		316.4	
	TOTAL AMP/PHASE			388	381	373	TOTAL AMP		381	

REMARKS: PANELBOARD SHALL BE SERVICE ENTRANCE RATED.
PROVIDE GROUNDING PER NEC AS REQUIRED.
PROVIDE PANELBOARD WITH SURGE PROTECTION DEVICE.
BREAKERS CALLED OUT AT 50 AMPS AND LARGER SHALL BE ELECTRONIC ADJUSTABLE TRIP TYPE BREAKERS.

PANELBOARD SCHEDULE

PANEL: SDP | EQUIP. GND. BUS: ■ | VOLTAGE: 208/120V, 3PH/4W
LOCATION: MAINTENANCE BLDG | ISOLATED GND BUS: ☐ | MAIN CIRCUIT BKR: 800 A
MOUNTING: SURFACE | NEUTRAL BUS: 100% ■ 200% ☐ | MLO: ☐
FED FROM: XFMR-1 | A.I.C.: 65,000 | SPD ■ | BUS RATING: 800 A

LOAD DESCRIPTION	BKR. AMPS	BKR. POLE	CKT. NO.	LOAD - V.A. A	LOAD - V.A. B	LOAD - V.A. C	CKT. NO.	BKR. POLE	BKR. AMPS	LOAD DESCRIPTION
			1	10,448 / 18,614			2			
MP-1	225	3	3		10,448 / 18,614		4	3	300	CP-1
			5			10,448 / 18,614	6			
FOOD TRUCK CONNECTION	50	2	7	4,160 / 4,160			8	2	50	FOOD TRUCK CONNECTION
			9		4,160 / 4,160		10			
SOUTH EV CHARGER CIRCUIT 1	100	2	11			8,320 / 8,320	12	2	100	NORTH EV CHARGER CIRCUIT 1
			13	8,320 / 8,320			14			
SOUTH EV CHARGER CIRCUIT 2	100	2	15		8,320 / 8,320		16	2	100	NORTH EV CHARGER CIRCUIT 2
			17			8,320 / 8,320	18			
SCOREBOARD LOAD CENTER (LC-1)	100	2	19	5,040 / 900			20	2	100	SHELTER LOAD CENTER 2 (LC-2)
			21		4,180 / 720		22			
PARKING LOT POLE CAMERAS / REC	20	1	23			1,080 / 180	24	1	20	LIFT STATION SERVICE REC
IRRIGATION CONTROLLER	20	1	25	1500 / 0			26	1	20	SPARE
SPARE	20	1	27		0 / 0		28	1	20	SPARE
SPARE	20	1	29			0 / 0	30	1	20	SPARE
SPARE	20	1	31	0 / 0			32	1	20	SPARE
SPD	20	1	33		500 / 0		34	1	20	SPARE
	TOTAL VA			61,462	59,422	63,602	TOTAL KVA		184.5	
	TOTAL AMP/PHASE			512	495	530	TOTAL AMP		512	

REMARKS: PROVIDE GROUNDING PER NEC AS REQUIRED.
PROVIDE PANELBOARD WITH SURGE PROTECTION DEVICE.
3-POLE BREAKERS CALLED OUT AT 50 AMPS AND LARGER SHALL BE ELECTRONIC ADJUSTABLE TRIP TYPE BREAKERS.

PANELBOARD SCHEDULE

PANEL: LC-1 | EQUIP. GND. BUS: ■ | VOLTAGE: 120/240V, 1PH/3W
LOCATION: SPORTS FIELD | ISOLATED GND BUS: ☐ | MAIN CIRCUIT BKR: 100 A
MOUNTING: POST-MOUNT (SURFACE) | NEUTRAL BUS: 100% ■ 200% ☐ | MLO: ☐
FED FROM: SDP | A.I.C.: 22,000 | BUS RATING: 100 A

LOAD DESCRIPTION	BKR. AMPS	BKR. POLE	CKT. NO.	LOAD - V.A. B	LOAD - V.A. C	CKT. NO.	BKR. POLE	BKR. AMPS	LOAD DESCRIPTION
FIELD 1 SCOREBOARD POWER	20	1	1	1,040 / 1,000		2	1	20	POLE S1 RECEPTACLE
FIELD 1 SCOREBOARD RECEPTACLE	20	1	3		180 / 1,000	4	1	20	POLE S2 RECEPTACLE
SPARE	20	1	5	0 / 1,000		6	1	20	POLE S3 RECEPTACLE
SPARE	20	1	7		0 / 1,000	8	1	20	POLE S4 RECEPTACLE
SPARE	20	1	9	0 / 1,000		10	1	20	POLE S5 RECEPTACLE
SPARE	20	1	11		0 / 1,000	12	1	20	POLE S6 RECEPTACLE
SPARE	20	1	13	0 / 1,000		14	1	20	POLE S7 RECEPTACLE (ALT 1)
SPARE	20	1	15		0 / 1,000	16	1	20	POLE S8 RECEPTACLE (ALT 1)
	TOTAL VA			5,040	4,180	TOTAL KVA		9.2	
	TOTAL AMP/PHASE			42	35	TOTAL AMP		44	

REMARKS: PROVIDE GFCI PROTECTION ON ALL BRANCH CIRCUIT BREAKERS.

PANELBOARD SCHEDULE

PANEL: LC-2 | EQUIP. GND. BUS: ■ | VOLTAGE: 120/240V, 1PH/3W
LOCATION: SHELTER | ISOLATED GND BUS: ☐ | MAIN CIRCUIT BKR: 100 A
MOUNTING: POST-MOUNT (SURFACE) | NEUTRAL BUS: 100% ■ 200% ☐ | MLO: ☐
FED FROM: SDP | A.I.C.: 22,000 | BUS RATING: 100 A

LOAD DESCRIPTION	BKR. AMPS	BKR. POLE	CKT. NO.	LOAD - V.A. B	LOAD - V.A. C	CKT. NO.	BKR. POLE	BKR. AMPS	LOAD DESCRIPTION
SHELTER POST RECEPTACLES	20	1	1	360 / 180		2	1	20	SHELTER LOW VOLTAGE
SHELTER POST RECEPTACLES	20	1	3		360 / 0	4	1	20	SPARE
SHELTER POST RECEPTACLES	20	1	5	360 / 0		6	1	20	SPARE
SHELTER POST RECEPTACLES	20	1	7		360 / 0	8	1	20	SPARE
SPARE	20	1	9	0 / 0		10	1	20	SPARE
SPARE	20	1	11		0 / 0	12	1	20	SPARE
SPARE	20	1	13	0 / 0		14	1	20	SPARE
SPARE	20	1	15		0 / 0	16	1	20	SPARE
	TOTAL VA			900	720	TOTAL KVA		1.6	
	TOTAL AMP/PHASE			8	6	TOTAL AMP		8	

REMARKS: PROVIDE GFCI PROTECTION ON ALL BRANCH CIRCUIT BREAKERS.

SITE LIGHTING FIXTURE SCHEDULE

Tag	Pole/Mtg Height	Pole Details	Pole Finish	Fixture Manufacturer	Fixture Model	Fixture Details	Fixture Finish	Lighting Area	Quantities	Lamp Type	Dimming	Lumens (Lm)	Voltage (V)	Watts (W)	Load (KW)
S1	90'	Musco, provide (1) gasketed	Custom	Musco	TLC-LED-1500		Custom	Sports Field	10	LED	Cabinet	181,000	480	1410	14.1
	16'	handhole directly above panel		Musco	TLC-LED-1200			Sports Field	2	LED	Cabinet	150,000	480	1170	2.34
S2	100'	Musco, provide (1) gasketed	Custom	Musco	TLC-LED-1500		Custom	Sports Field	10	LED	Cabinet	181,000	480	1410	14.1
	16'	handhole directly above panel		Musco	TLC-LED-1200			Sports Field	2	LED	Cabinet	150,000	480	1170	2.34
S3	100'	Musco, provide (1) gasketed	Custom	Musco	TLC-LED-1500		Custom	Sports Field	10	LED	Cabinet	181,000	480	1410	14.1
	16'	handhole directly above panel		Musco	TLC-LED-1200			Sports Field	2	LED	Cabinet	150,000	480	1170	2.34
S4	100'	Musco, provide (1) gasketed	Custom	Musco	TLC-LED-1500		Custom	Sports Field	10	LED	Cabinet	181,000	480	1410	14.1
	16'	handhole directly above panel		Musco	TLC-LED-1200			Sports Field	2	LED	Cabinet	150,000	480	1170	2.34
S5	100'	Musco, provide (1) gasketed	Custom	Musco	TLC-LED-1500		Custom	Sports Field	10	LED	Cabinet	181,000	480	1410	14.1
	16'	handhole directly above panel		Musco	TLC-LED-1200			Sports Field	2	LED	Cabinet	150,000	480	1170	2.34
S6	100'	Musco, provide (1) gasketed	Custom	Musco	TLC-LED-1500		Custom	Sports Field	10	LED	Cabinet	181,000	480	1410	14.1
	16'	handhole directly above panel		Musco	TLC-LED-1200			Sports Field	2	LED	Cabinet	150,000	480	1170	2.34
P1	25'	Round Tapered Steel RTS-2570B-D01-MG3-BK	Black	Acuity-Lithonia	D-Series Size 1	LED area luminaire, P3 Optics, T2M distribution, single-head, 70 CRI	Black	Parking Lot, Roadway	40	3000K LED	nLight AIR	13,055	277	102	4.08
P2	25'	Round Tapered Steel RTS-2570B-D04-MG3-BK-FST	Black	Acuity-Lithonia	D-Series Size 1	LED area luminaire, P3 Optics, T2M distribution, quad-head, 70 CRI, with integral GFCI receptacle on pole (quantity/locations indicated on plans)	Black	Parking Lot	6	3000K LED	nLight AIR	52,220	277	408	2.448
P3	-	-	-	BEGA	84457-K3	In-ground, stainless steel, adjustable uplight	Steel Gray	Core Area Flagpoles	6	3000K LED	-	3,211	277	34	0.204
P4	15'	Tapered Round Aluminum TRA-CA-5/3-188-14	Black	Signify-Gardco	PureForm LED	PPT, Comfort, Type V, with integral GFCI receptacle on pole (quantity/locations indicated on plans)	Black	Core Area Walkway	14	3000K LED	Integral Wireless, 7-pin	8,749	277	93	1.302
P6	-	-	-	Axis Lighting	WBSLED	8ft Linear Surface LED, Wet Location Listed, Provide (1) fixture per bay per side of shelter. Provide (2) total fixtures with emergency battery packs (1 on each side of shelter).	Custom	Shelter	6	3000K LED	-	8,000	277	92	0.552
P7	-	-	-	Spring City	PS19-FSB-BH	Post-Top, Type V, integral surge protection. Provide fixture to match City of Elgin Central Business District acorn-type fixture with decorative gold band, finial.	Black	NE Gateway	2	3000K LED	-	5,975	277	40	0.08

EXTERIOR LIGHTING CONTROL SCHEDULE

LIGHTING ZONE	MANUAL ON OR AUTO ON	ON TO % OUTPUT AT DUSK	DIM TO 50% AFTER 15MIN OF NO MOVEMENT	TURN OFF DURING NON-BUSINESS HOURS (NOTE 2) (NOTE 3)	DIGITAL ASTRONOMICAL TIMECLOCK	INTEGRAL OCCUPANCY SENSOR	PHOTOCELL (NOTE 4)	NOTES
ROADWAY	AO	100%			X			ROADWAY LIGHTS EXEMPT FROM DIM/OFF REQUIREMENT PER ELGIN MUNICIPAL CODE SECTION 19.13.115. EXEMPTION A.
GATEWAY	AO	100%			X			GATEWAY LIGHTS EXEMPT FROM DIM/OFF REQUIREMENT PER 2021 IECC C405.5.1 EXEMPTION 12 FOR MONUMENT LIGHTS.
PARKING LOTS	AO	100%	X		X	X		
CORE AREA WALKWAY	AO	100%		X	X			
FLAGPOLES	AO	100%			X			GATEWAY LIGHTS EXEMPT FROM DIM/OFF REQUIREMENT PER 2021 IECC C405.5.1 EXEMPTION 12 FOR FLAGPOLE LIGHTS.
PAVILION	AO	100%		X	X			

GENERAL NOTES:

1. LIGHTING CONTROL SCHEDULE USES 2021 IECC COMPLIANCE REFERENCE.
2. COORDINATE BUSINESS HOURS WITH CLIENT.
3. LIGHTING TO AUTOMATICALLY BE TURNED OFF ONE HOUR AFTER END OF BUSINESS HOURS OR 12AM, WHICHEVER IS LATER, AND AUTOMATICALLY BE TURNED ON ONE HOUR BEFORE START OF BUSINESS HOURS OR 6AM, WHICHEVER IS EARLIER.
4. LIGHTING TO AUTOMATICALLY BE TURNED OFF WHEN DAYLIGHT IS SUFFICIENT.
5. CONTRACTOR TO REVIEW AND CONFIRM ALL CONTROL PROGRAMMING REQUIREMENTS WITH CLIENT PRIOR TO PROGRAMMING.

VOLTAGE DROP CALCULATION

Feeder Designation or Description	Power Factor	Material (Steel or PVC)	Conductor Material (CU or AL)	Load (Amps)	Voltage	Phase	Circuit Length (Ft.)	Conductor Size: Wire Size	Conductor Size: Qty. of Sets	Voltage Drop: Drop (Volts)	Voltage Drop: % Drop	Notes
Northeast Furthest Field Pole	0.85	PVC	CU	34.75	480	1	1650	#1/0	1	**14.35**	**2.99%**	
Southeast Furthest Field Pole	0.85	PVC	CU	34.75	480	1	1465	#1/0	1	**12.75**	**2.66%**	
Furthest Roadway Pole	0.85	PVC	CU	7.7	277	1	3800	#1/0	1	**7.33**	**2.64%**	
Furthest East Parking Pole	0.85	PVC	CU	1.7	277	1	1530	2	1	**0.97**	**0.35%**	
Core Area Parking/Walkway	0.85	PVC	CU	10.1	277	1	716	2	1	**2.67**	**0.96%**	
Furthest EV Charger	0.85	PVC	CU	80.0	208	1	500	1	2	**6.07**	**2.92%**	
Furthest Food Truck Pedestal	0.85	PVC	CU	40.0	208	1	400	2	1	**5.93**	**2.85%**	
Scoreboard Load Center (LC-1)	0.85	PVC	CU	33.3	240	1	375	1	1	**3.79**	**1.58%**	
Irrigation Pump	0.85	PVC	CU	14.0	480	3	450	8	1	**7.53**	**1.57%**	

ELGIN SPORTS COMPLEX EXPANSION
475 Sports Way,
Elgin, Illinois 60123

VOLUME 1 OF 2

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ISSUED FOR	REV	DATE
ISSUE FOR BID	1	04/11/2024

SEALS AND SIGNATURES

KEY PLAN

DRAWING TITLE
ELECTRICAL SCHEDULES

SCALE: N.T.S.
SCALE

14106
PROJECT NUMBER

E-502
DRAWING NUMBER